Volume

1

EverFocus®

Instruction Manual

EDR1640/1620/920

EVERFOCUS ELECTRONICS CORPORATION

EDR1640 / 1620 / 920

Instruction Guide

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Safety Warning

WARNING
TO REDUCE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Note:
This equipment has been tested and found to comply with the limits for a Class A digital device,
The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note:
This is a class A product. In a domestic environment this product may cause radio interference
In which case the user may be required to take adequate measures.

Notice:

The information in this manual was current when published.
The manufacturer reserves the right to revise and improve its products.
All specifications are therefore subject to change without notice.

Safety Precautions (1)

Refer all work related to the installation of this product to qualified service personnel or system installers.

Do not block the ventilation opening or slots on the cover.

Do not drop metallic parts through slots. This could permanently damage the appliance. If this does happen. Turn the power off immediately and contact qualified service personnel for service.

Do not attempt to disassemble the appliance. To prevent electric shock, do not remove screws or covers. There are no user-serviceable parts inside. If this does happen. Contact qualified service personnel for maintenance. Handle the appliance with care. Do not strike or shake, as this may damage the appliance.

Do not expose the appliance to water or moisture, nor try to operate it in wet areas. Do take immediate action if the appliance becomes wet. If this does happen. Turn the power off and refer servicing to qualified service personnel. Moisture may damage the appliance and also cause electric shock.

Do not use strong or abrasive detergents when cleaning the appliance body. Use a dry cloth to clean the appliance when it is dirty. When the dirt is hard to remove, use a mild detergent and wipe gently.

Do not overload outlets and extension cords as this may result in a risk of fire or electric shock.

Do not operate the appliance beyond its specified temperature, humidity or power source ratings. Do not use the appliance in an extreme environment where high temperature or high humidity exists. Use the appliance at temperature within indoor type DVR for 0°C ~ +50°C and a humidity below 90%. The input power source for this appliance is AC100~240V.

Safety Precautions (2)

Read Instructions — All the safety and operating instructions should be read before the unit is operated.

Retain Instructions — The safety and operating instructions should be retained for future reference.

Warnings — All warnings on the unit and in the operating instructions should be adhered to.

Follow Instructions — All operating and user instructions should be followed.

Cleaning — Unplug the unit from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning

Water and Moisture — Do not use this unit near water-for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, near a swimming pool, in an unprotected outdoor installation, or any area which is classified as a wet location.

Servicing — Do not attempt to service this unit by yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Power Cord Protection — Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, playing particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.

Object and Liquid Entry — Never push objects of any kind into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.

Chapter

1

Product Overview

The EDR1640/1620/920 DVR's are the industry's first full-featured digital video recorder designed specifically for use within the CCTV security industry. EDR1640/1620/920 DVR's incorporates all the benefits of digital video recording, is simple to install, and operates just like a VCR. Highly efficient compression technology and superior resolution of recorded images make the Digital Video Recorder stand out from the competition as the best choice for security surveillance.

1.1 Features

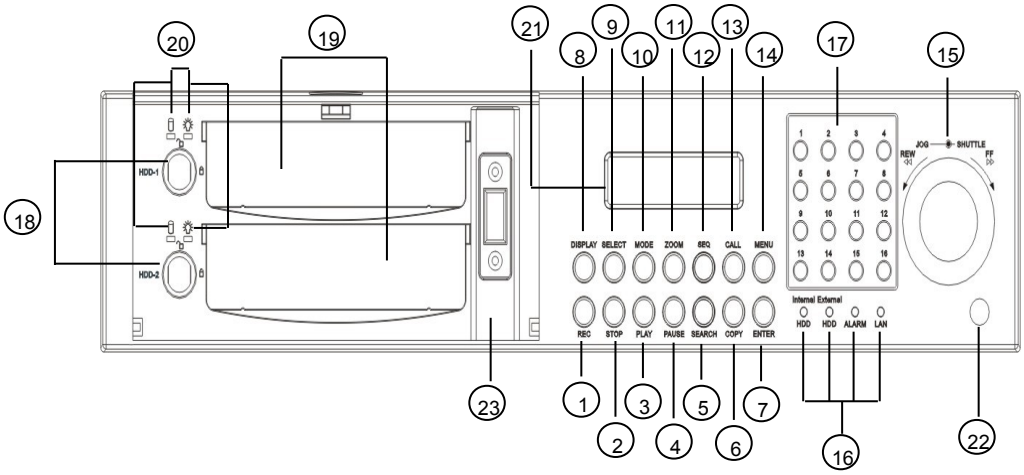
- Multiplex Operation (Recording, Playback, Archiving, Remote Viewing)
- Built-in MPEG4 Codec with Configurable Quality
- Embedded Linux OS
- Variable Recording Speeds Up to 480/240(CIF) Pictures per second (EDR 1640/1620/920)
- 4-channel Audio Recording Capabilities (local)
- Motion Detection Capabilities
- Two 3.5" Hot-Swap Hard Disks, expendable to max. 50 Hard Disks with EDA 800S (optional)
- SCSI Interface for External Expanded Storage
- Ethernet Interface for Remote Network Viewing and Controlling
- RS232/RS485 for Remote Control
- Shuttle/Jog Dial for Picture-by-Picture or Fast/Slow Viewing
- Easy-to-use User Friendly Control via front panel keypad, Shuttle/Jog,
- Mouse and Control Keyboard (optional)
- On-Screen Menus Operations with Multi-Language Support
- Real-Time Live Display for all Cameras
- USB 2.0 Interface for Archiving
- Support external USB DVD+RW for Archiving (optional)
- Water Mark Capabilities

1 Specifications

Video Format	NTSC/EIA or PAL/CCIR
Video Input	16 / 9 camera inputs (BNC), 1Vp-p/75ohm

Video Output	1 BNC video out (1Vp-p/75ohm) and S-Video out for Main Monitor 1 BNC video out (1Vp-p/75ohm) for CALL Monitor 16 / 9 video out (1Vp-p/75ohm) for Looping	
Video Compression	MPEG4	
EDR1640 Recording Resolution	720x480 (NTSC:120IPS) / 720x576 (PAL:100IPS) 720x240 (NTSC:240IPS) / 720x288 (PAL:200IPS) 360x240 (NTSC:480IPS) / 360x288 (PAL:400IPS)	
EDR1620 Recording Resolution	720x480 (NTSC: 60 IPS) / 720x576 (PAL: 50IPS) 720x240 (NTSC:120IPS) / 720x288 (PAL:100IPS) 360x240 (NTSC:240IPS) / 360x288 (PAL: 200IPS)	
EDR920 Recording Resolution	720x480 (NTSC: 60 IPS) / 720x576 (PAL: 50IPS) 720x240 (NTSC:120IPS) / 720x288 (PAL:100IPS) 360x240 (NTSC:240IPS) / 360x288 (PAL: 200IPS)	
Video Display	Full, PIP, 4, 7, 8/9, 10, 13, 16 and 2x2 Zoom for Live and Playback	
Video Pause	Yes	
Alarm Inputs	16/9 Alarm Inputs	
Alarm Outputs	4 Alarm Outputs	
Hard Disk Storage	Two Hot-Swappable 3.5" IDE Hard Disk	
Recording Rate	Up to 60/50 Images per second for NTSC/PAL	
Recording Mode	Continue, Time-lapse, Schedule, Event recording (Motion and Alarm)	
Playback Rate	Up to 60/50 Images per second for NTSC/PAL	
Playback Search	By Date/Time or Event (Motion, Video Loss, Alarm)	
Motion Detection	Yes, with MULTIPLE configurable detection areas & sensitivity	
Video Loss Detection	Yes	
Event Log	Yes	
User Interface	User-friendly Menu Driven	
Setup	On screen display setup	
User Input Device	Front panel keypad with Shuttle/Jog, Mouse, Keyboard, Remote Control (optional)	
Timer	Built-in real time clock	
Watch Dog Timer	Yes	
Title	12-characters title for each camera	
Ethernet	RJ45 connector for network communication 10/100 Mbps	
Archive	USB 2.0 Interface Device for archiving	
RS-232	9-pin female connector for local communication	
RS-485	For Keyboard and PTZ connection	
Audio	4 mono inputs, 1 mono (SPEAKER) outputs	
Power Source	AC100~240 V±5%	
Dimension	17 in (W) x 3.5 in (H) x 12 in (D)	
Operating Temperature	0°C ~ +50°C	
Remote Controller	IR Remote Controller IR Remote Controller with Extension Wire (optional)	
Recording Rate	NTSC	PAL
1640 model	**D1** 720x480 : 120 IPS **Half D1** 720x240 : 240 IPS **CIF** 360x240 : 480 IPS	**D1** 720x576 : 100 IPS **Half D1** 720x288 : 200 IPS **CIF** 360x288 : 400 IPS
1620 model	**D1** 360x240 : 60 IPS **Half D1** 360x120 : 120 IPS **CIF** 180x120 : 240 IPS	**D1** 360x288 : 50 IPS **Half D1** 360x144 : 100 IPS **CIF** 180x144 : 200 IPS
920 model	**D1** 360x240 : 60 IPS **Half D1** 360x120 : 120 IPS **CIF** 180x120 : 240 IPS	**D1** 360x288 : 50 IPS **Half D1** 360x144 : 100 IPS **CIF** 180x144 : 200 IPS

1 Front Panel Keypads



Keys:

1 **REC:** Press this key to start instant recording.

2 **STOP:** Press this key to stop recording and playing back.

3 **PLAY:** Play Back.

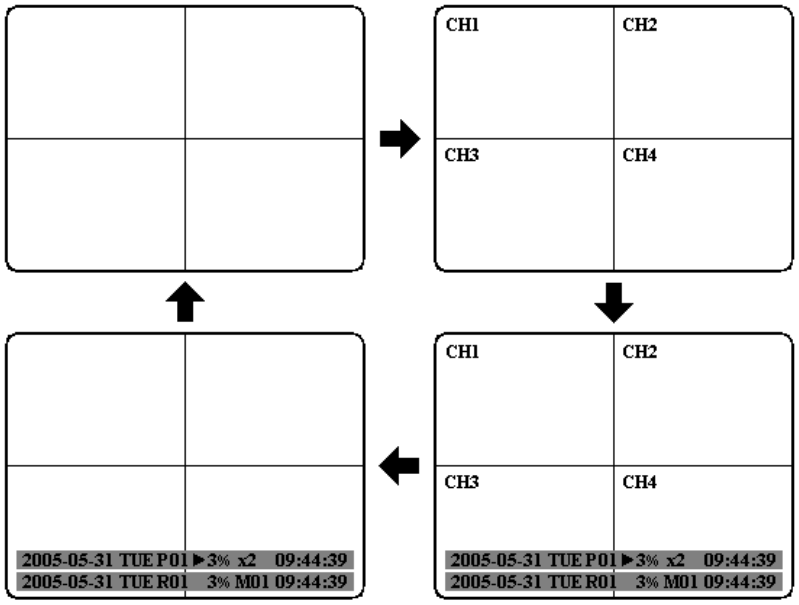
4 **PAUSE:** Press this key to pause the playback picture.

5 **SEARCH:** Press this key to enter the **SEARCH MENU**.

6 **COPY:** Press this key to start to copy a still picture under **PAUSE** mode or video stream into USB memory stick (USB memory not included).

7 **ENTER:** Press this key to enter items or jump to next subentry in the menu setting.

8 **DISPLAY:** Press this key to switch display of channels and/or status bar.



9 **SELECT:** Press this key to assign a camera to be displayed on a selected camera quadrant.

10 **MODE:** Switch PIP, 4, 7, 9, 10, 13 and 16 displays in **Live** and **Playback modes**.

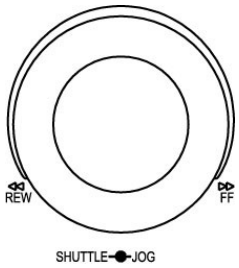
11 **ZOOM:** Press this key while viewing the full screen image to display a magnified resolution on the monitor. You must be in ull screen mode first before zooming. While zooming, all other function keys will be disable until you press OOM again to exit OOM mode.

12 **SEQ**: Press this key to enter the auto sequential switching mode.

13 **CALL:** Press this key to enter and set up **CALL MENU**.

14 **MENU:** Press this key to enter or exit **MENUs.**

15 **Shuttle and Jog Dial**



Shuttle: In the **Playback** mode, turn the **Shuttle** dial to fast forward/rewind the video. In the **Pause** mode, turn the **Shuttle** dial to slow forward/rewind the video. In the **Search** mode, turn the **Shuttle** to change pages.

Jog Dial: In the **Pause** mode, turn the **Jog** dial to forward/rewind the video. In the **Menu** mode, turn the **Jog** dial to change settings and values in subentries.

16 **System LED□ :** LED□ for system active HD**D,** AL**ARM a**nd LA**N**

17 **Channel Key (1~16):** Press Channel Key (**CH1~CH16**) to display video image in the full screen format, the corresponding picture will fill the whole screen of the monitor display. The EDR920 will only have 9 Channel Keys.

18 **HDD LOCK:** Protect HDD without steal and turn on HDD power.

19 **Hard Disk Tray:** Hard Disk holder for HDD.

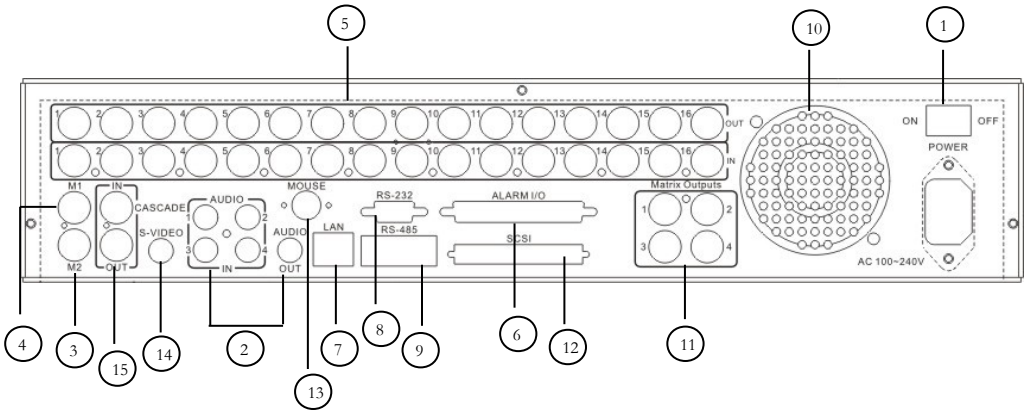
20 **HDD LED□ :** LED□ for HDD active power (GREEN) and data reading/writing (YELLOW).

21 **LCD Panel:** To display Date and Time.

22 **Remote Control:** IR remote control receiver.

23 **USB Slot:** USB port allows you to archive video files onto your storage.

2 Back Panel Connections



POWER

1 **Main Power plug:** power source to AC 100~ 240V.

AUDIO

2 **Audio IN:** Audio inputs 1~4 for recording, and it can be set to □ **ES**□or □ O□**in** the REC**ORD SETUP MENU.**
Audio OUT: Connect an audio output to a monitor or other device.

MONITOR

3
MAIN MONITOR: This connector is used for the main monitor display, a number of different display mo

CALL MONITOR: This connector is used for the call monitor. This monitor can only display a full screer
4

VIDEO IN

5 **For EDR1640/1620 Series:**
VIDEO OUT(1~16): BNC connectors for video looping out 1~16.
VIDEO IN(1~16): BNC connectors for video input 1~16 .

⑤ **For EDR920 Series:**
VIDEO OUT(1~9): BNC connectors for video looping out 1~9.
VIDEO IN(1~9): BNC connectors for video input 1~9 .

Alarm Input/Output

◯ **Alarm Input**

ALM-INPUT: Normal open or normal close type alarm signal inputs.
The Alarm Input can be selected as normal open (**N.O.**) or normal close (**N.C.**) input in the **ALARM SETUP MENU**. When an alarm occurs, alarm recording will automatically start.

ALM-OUTPUT: A build-in relay offers 3 nodes which are **ALM-COM** (common), **ALM-NO** (normal open) and **ALM-NC** (normal close) for external use.

Note: Please check **APPENDIX C** to see other available alarm input/output functions.

LAN

◯ **LAN Connector:** The RJ-45 LAN connector.

RS232

◯ **RS232 connector:** Connect D-Sub 9 pins connector to RS232 ports for remote control.

RS485

◯ **RS485 connector:** RJ 45 Connector to Cascade multi Digital Video Recorder.

Wireless LAN (Reserved)

⑩ **FAN:** Cooling FAN.

Matrix Outputs

11 **Matrix outputs 1~4:** BNC connectors for Matrix outputs 1~4.

SCSI Connector

12 **SCSI Connector:** For connecting the optional extension unit.

Mouse

13 **Mouse:** For connecting the mouse.

S-Video

14 **S-Video:** providing S-Video connector.

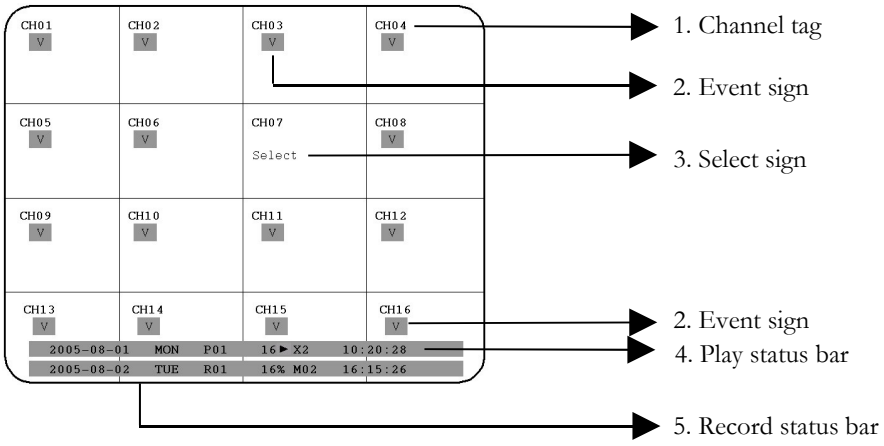
Cascade

15 **Cascade** is designed for connecting a number of DVRs to one monitor.
You will be allowed to view and to control as many DVRs as you prefer from the same monitor simply switching the screen using a multi-function keyboard controller.

Connect from **Cascade out** of the DVR to Cascade In of another with BNC connectors. Repeat the same step for all your DVRs until you connect the last Cascade Out to the original DVR's **Cascade In**.

1.5 Monitor Display

The status information of the cameras or machine will show up, and be located at different places on the screen.



(1) **Channel tag:** A channel tag indicates the channel name of the screen.

(2)

Event sign: Event signals which are small icons with a capital letter and red background show the events on each screen. There are 4 different signals which are

A : Alarm event. The alarm place where the camera locates. In order to show the camera video to a corresponding alarm, setting a **FOCUS CAMERA** in **ALARM SETUP MENU** is necessary.

M : Motion event. Motion event only shows up when the camera **MOTION** is enabled in M**OTION SETUP MENU,** and the camera detects a motion.

V : Video loss event. Video loss event only shows when the camera VL**OSS** is enabled in VL**OSS SETUP MENU,** and the camera signal is lost.

S : Sequence sign. Sequence sign shows up when the display is in the sequence mode. The sequence display is located on display with a

③ **Select sign:** You can assign a camera to a display by pressing **SELECT** key in live mode. Dial **Jog** to move the select sign to the display you would like to change camera, and then press channel key from the Channel Panel to relocate the camera.

④ **Play status bar:** The play status bar appears in play back mode if you enable a status bar on the screen (Please see **DISPLAY**, 8th item of **Front Panel Keypads**). Three parts which are play date, play time, and play status are shown in the play status bar.

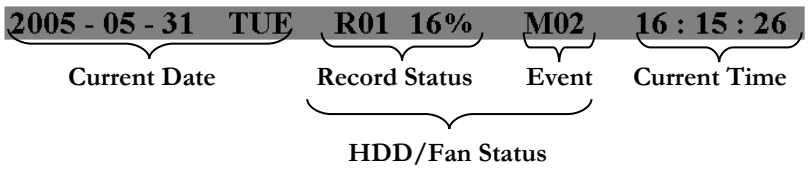
1. Play date: The play date in which the video is recorded.

2. Play status: It shows PAUSE, play speed and reverse play speed.

- **AUSE** when the video play is paused.
- **me**ans normal play speed;
- mea**n**s normal reverse play speed;
- > x N **means** N time fast play speed;
- < x N me**ans N** time fast reverse play speed.

3. Play ti**me: The play t**ime at which the video is recorded. The time format depends on the time format setting in the TIME/DATE **SETUP MENU.**

⑤ **Record status bar:** The record status bar appears when you enable a status bar on the screen (Check **DISPLAY**). Three parts which are current date, record status (% of space used for recording) and current time.



1. **Current date:** The current date which is set in the **TIME/DATE SETUP MENU**.
2. **Record status:** It shows REC and recording hard disk number.
   - **EC it** shows when machine is recording.
   - 01 **t**he recording hard disk number. There is only one hard disk available in this model, so it always shows R01 when recording.
3. E**vent: The** last happened event.
4. C**urrent time: The** current time which is set in the TIME**/DATE SETUP MENU.**
5. **HDD/Fan status:** **o Disk it s**hows when no disk is installed or detected.
   - **o Fan it sho**ws when cooling fan stops working.

Chapter

2

Installation

The installations described below should be made by qualified service personnel or system installers. Please check accessories in the packaging before beginning installation. Please refer to the following diagram for the basic wiring connections.

- ***Note: Monitors and Cameras must be purchased separately.***

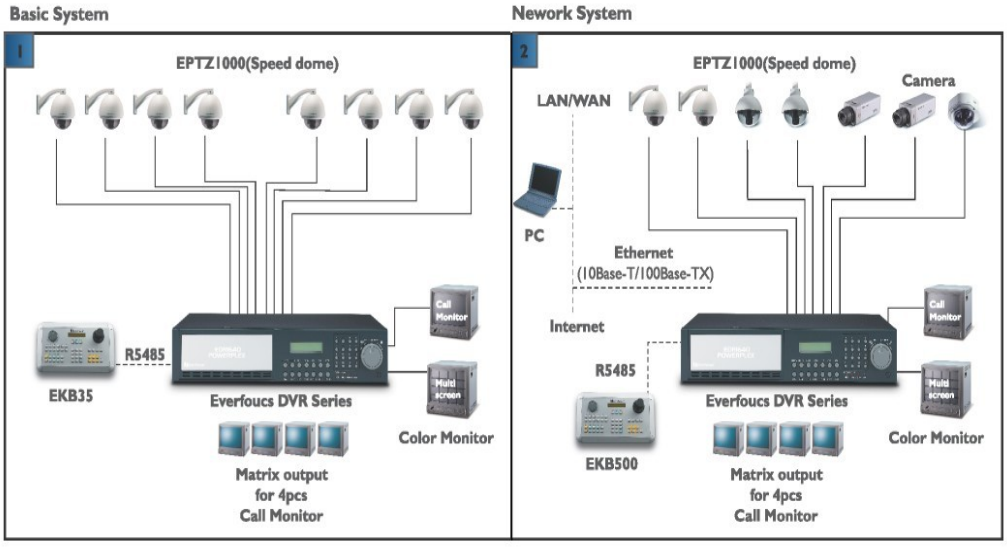
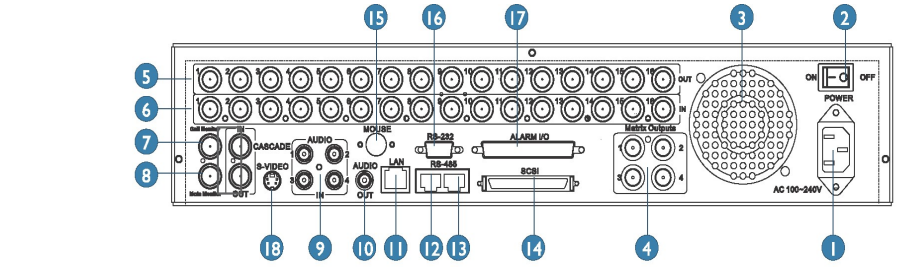


Diagram 2.1



1. Main Power socket
2. Power switch
3. Cooling Fan
4. Matrix outputs
5. Video output connectors (video out 1~16)
6. Video input connectors (video in 1~16)
7. Call monitor output
8. Main monitor connector
9. S-Video connector
10. Audio input connectors (audio in 1~2)
11. Audio output connectors
12. LAN connector
13. RS485 connector
14. SCSI connector
15. Mouse connector
16. RS232 connector
17. Alarm input/output
18. Cascade in/out

Diagram 2.2

2.1 Video Connections, DVR cascading

Sample installation with maximum camera and monitor configuration:

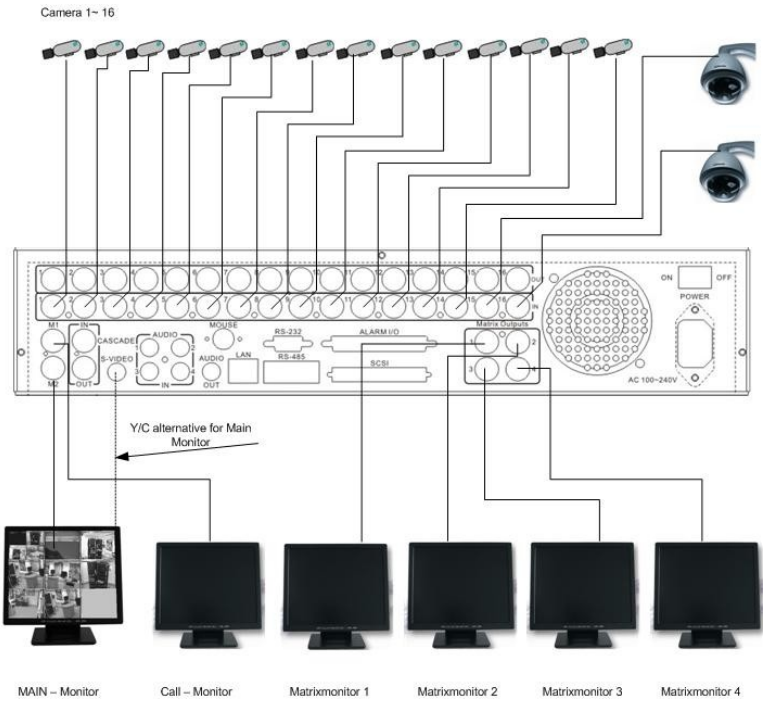


Diagram 2.3

Cameras and monitors have to be cabled with 75 Ohm video cable, e.g. RG-59, RG-6, RG-11 and suitable BNC plugs.

Due to inappropriate absorbability, 50 Ohm coax cable (e.g. RG58), antenna cable and further types of coax cable are not suitable.

All connected video sources must provide a 1 Vpp NTSC standard video signal.

When interconnecting transmission lines (twisted pair, fibre optics, radio) to the video inputs, ensure the accurate receiver calibration.

The MAIN monitor may optionally be connected through a Y-C (S-Video) cable to achieve an improved image quality.

For local DVR operation, MAIN monitor connection is compulsory. Call and matrix monitors can be connected optionally.

ATTENTION: Make sure that there is a video signal on video input 1 upon start-up, as this input is required for video system auto detection (NTSC/PAL)!

DVR Cascading

The digital video recorders provide "CASCADE IN" and "CASCADE OUT" video connections.

In combination with EKB500 keyboard, up to 255 EDR1640/1620/920 can be cascaded and administrated via one single main monitor. Cascading is effected by connecting the DVRs "CASCADE OUT" to the "CASCADE IN" of the following DVR, while the last "CASCADE OUT" is connected to the monitor input.

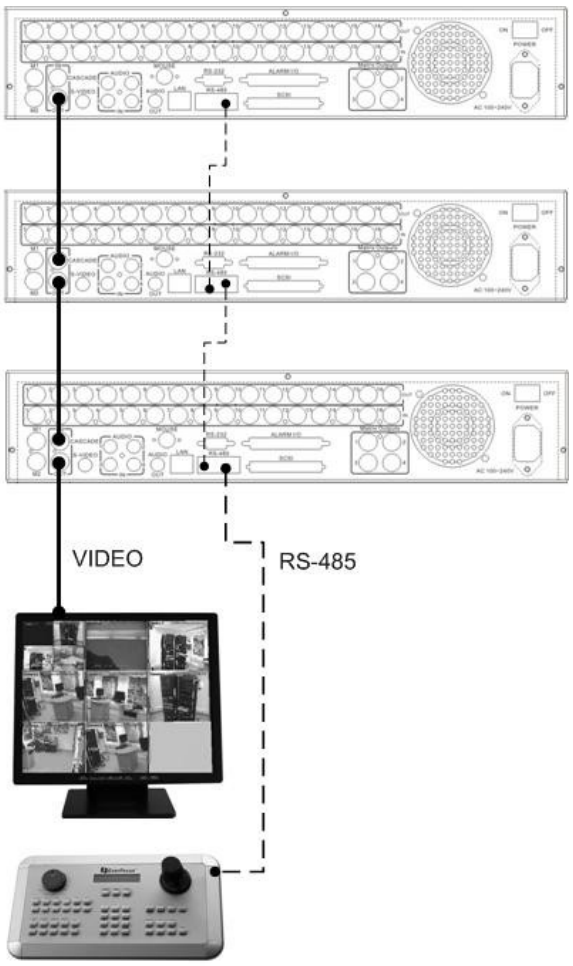


Diagram 2.4

Installation with 3 cascaded EDR and EKB-500

2.1 Audio Connection Installation

Sample installation with audio connection to video cameras providing audio output:

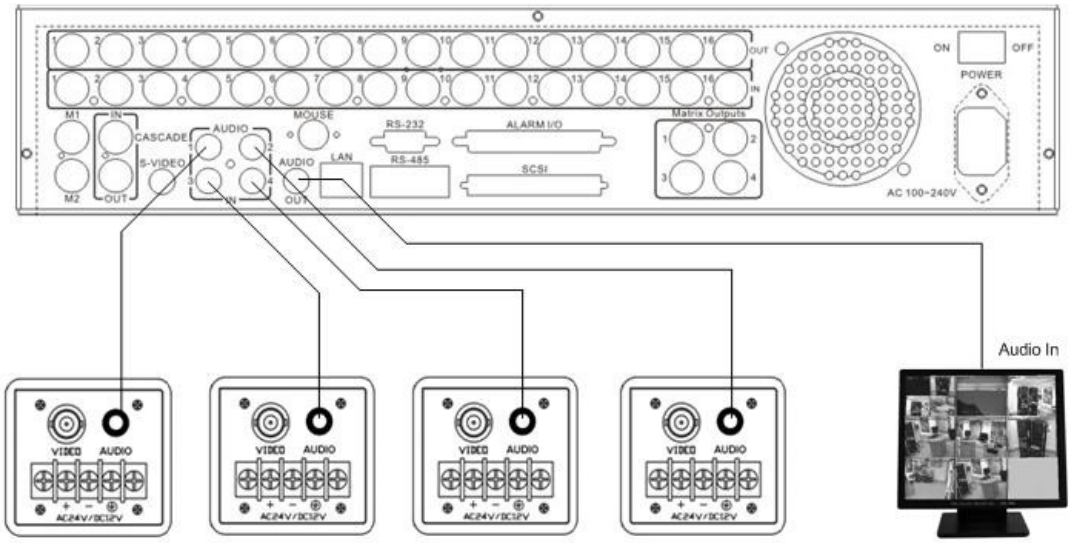


Diagram 2.5

The EDR1640/1620/920 DVRs provide 4 audio inputs and 1 audio output.

The inputs are designed for max. 500 mV to 10 KOhm line audio signals.

ATTENTION: The direct connection of a non-amplified microphone is not supported (a microphone amplifier is required).

The installation has to be effected with audio coax cable and RCA plugs.

The output provides a max. 500 mV to 10 KOhm line audio signal and may be connected to e.g. a monitor‘s audio input. The direct connection of (passive) speakers is not supported.

AUDIO RECORDING FUNCTIONALITY:

Audio recording is activated / deactivated in the RECORDING menu for all channels.

Audio of all channels is always recorded together with (each) video and is independent of the image recording rate. There is no specific camera allocation.

During playback, use the JOG to select the requested playback channel 1~4 (active channel is indicated in playback on-screen display).

2.3 Speed Dome Installation

Speed dome or telemetry receiver pan/tilt/zoom control is available through web browser or the optional PowerCon software if the DVR is connected to a network. Local telemetry control is provided by the optional EKB 500 keyboard.

Supported protocols: EverFocus, Pelco-D, Pelco-P, ED2200/2250

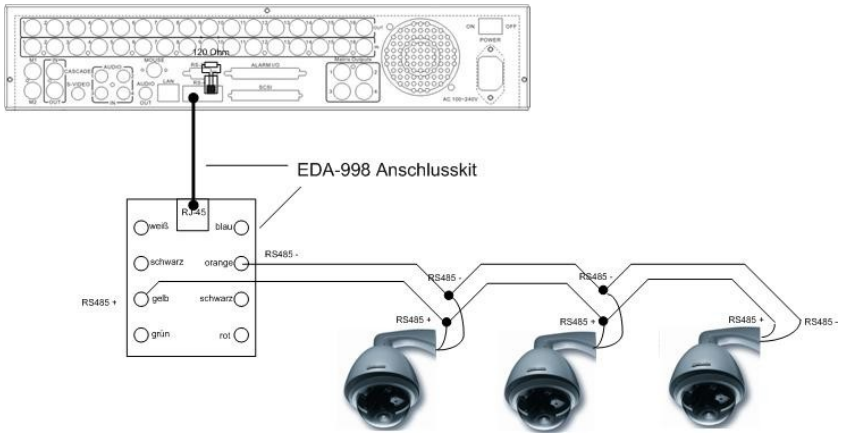


Diagram 2.6

Sample installation with 3 EPTZ1000 speed domes and EDA998

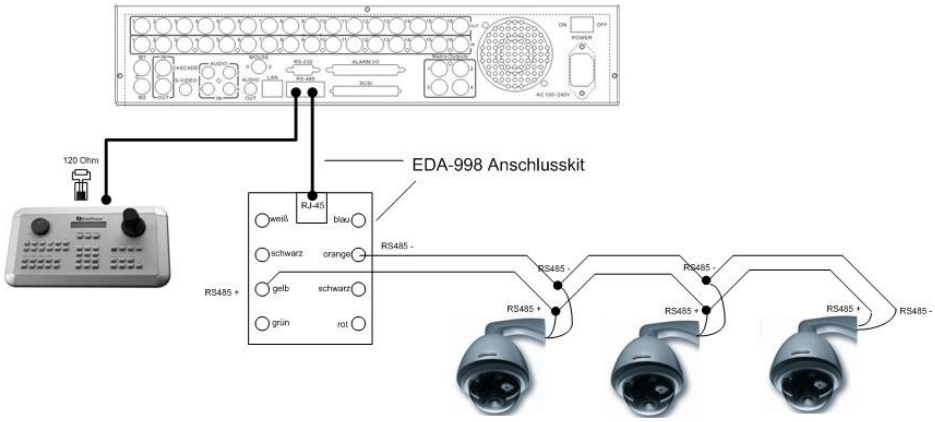


Diagram 2.7

Sample installation with 3 EPTZ1000 speed dome, EDA998 and local EKB 500 operation

Required DVR settings: RS-485 receiver address in **CAMERA** menu RS-485 parameters and protocol in **RS232/485** menu

ATTENTION: Some Pelco-D / -P protocol domes and receivers require an address offset of -1, i.e. the address assigned to the dome / receiver in the DVR camera menu must be 1 below the address set in the dome / receiver itself!

2.4 Alarm Input / Output Installation

The EDR1640/1620/920 alarm inputs can be used for recording start or recording rate adjustment. Furthermore, alarm reactions such as camera switching to monitors, buzzer, e-mail and network alarm are available. An alarm output relay can be switched if required.

EDR920 provides 9 alarm inputs, EDR1640/1620 provides 16. All inputs are programmable NO/NC.

Inputs have to be switched through dry contacts.

The 4 output relays provide a dry NO/NC contact.

All settings are programmed in the **ALARM** menu**.**

Use either the 37-pin Sub-D plug or the included adaptor board for connection.

Pin assignment adaptor board

HOST			
PIN #	**NAME**	**PIN #**	**NAME**
1	GND	21	GND
2	ALMIN 1	22	ALM_NC1
3	ALMIN 2	23	ALM_NO1
4	ALMIN 3	24	ALM_COM1
5	ALMIN 4	25	ALM_NC2
6	ALMIN 5	26	ALM_NO2
7	GND	27	ALM_COM2
8	ALMIN 6	28	GND
9	ALMIN 7	29	ALM_NC3
10	ALMIN 8	30	ALM_NO3
11	ALMIN 9	31	ALM_COM3
12	ALMIN 10	32	ALM_NC4
13	GND	33	ALM_NO4
14	ALMIN 11	34	ALM_COM4
15	ALMIN 12	35	GND
16	ALMIN 13	36	ALMRST
17	ALMIN 14	37	REC_IN
18	ALMIN 15	38	SPARE_IN
19	ALMIN 16	39	DISK_FULL
20	GND	40	SPARE_OUT

Pin assignment sub-d board

DVR			
PIN	**NAM**	**PIN**	**NAM**
1	GN	19	GN
2	ALM 1	20	ALM-NC0
3	ALM 2	21	ALM-NO
4	ALM 3	22	ALM-COM0
5	ALM 4	23	ALM-NC1
6	ALM 5	24	ALM-NO
7	ALM 6	25	ALM-COM1
8	ALM 7	26	ALM-NC2
9	ALM 8	27	ALM-NO
10	ALM 9	28	ALM-COM2
11	ALM 10	29	ALM-NC3
12	ALM 11	30	ALM-NO
13	ALM 12	31	ALM-COM3
14	ALM 13	32	ALMRSTO
15	ALM 14	33	REC
16	ALM 15	34	GIN1
17	ALM 16	35	DISKFULL
18	GN	36	GO

Descriptions:

ALMINxx: Alarm input xx (1~16)

GND: common ground for alarm inputs

ALM_COMx: output relay x , contact root

ALM_NOx: output relay x , NO contact

ALM_NCx: output relay x , NC contact

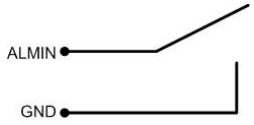
ALMRST: Alarm reset, control input for alarm reset, for dry NO contact towards GND

DISKFULL: OC output contact for signal HDD full, switches to GND

REC_IN: Control contact for recording start

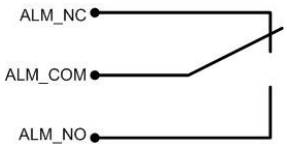
SPARE_IN / OUT: reserved

NO contact alarm input connection:



NC contact alarm input connection:

Output relay in idle state:



2.5 EDA800s Installation (optional)

The EDR1640/1620/920 image storage capacity can be expanded using EDA800s hard disk expansion units. Max. 6 EDA800s with 8 hard disks each can be connected via SCSI bus.

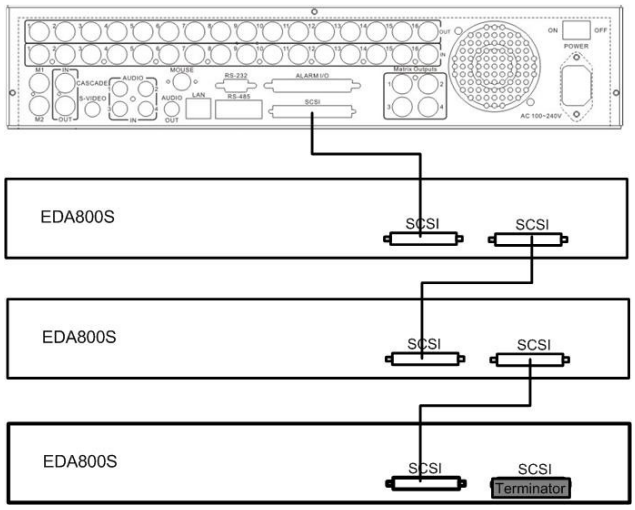


Diagram 2.8

For installation details of the EDA-800S hard disk expansion unit, please refer to the EDA800s manual.

2.6 Network Connection

EDR920/1620/1640 DVRs provide fast MPEG-4 format image transmission and network remote configuration.

This chapter doesn't go into basic networking. For further information, about router installation and internet connection please refer to the Chapter 10 through chapter 13.

Physically, two basic types of connection are possible:

2.6.1. Direct PC connection through crossover network cable

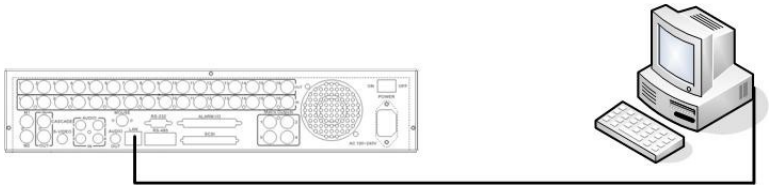


Diagram 2.9

The point-to-point connection of DVR and PC requires a crossover (crossed) network cable. This type of connection does not allow the connection of several PCs or DVRs. Make sure that the PC is equipped with a 100 Mb compatible network connection.

2.6.2. Network connection through patch cable

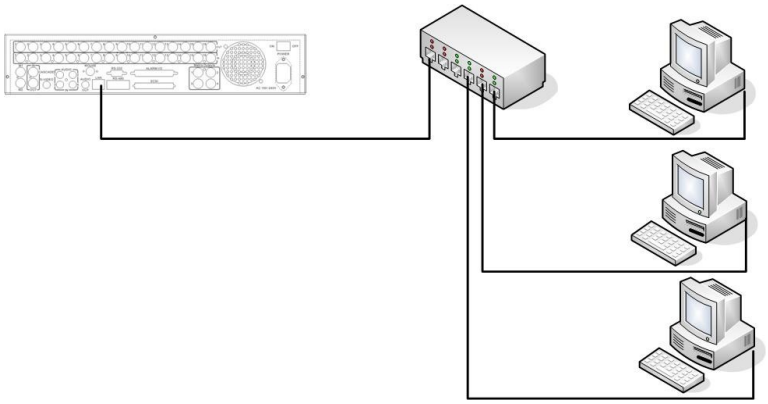


Diagram 2.10

The connection to an existing network requires a normal patch cable (wired 1:1). The illustration shows the connection to a network switch, router or modem.

2.6.3. Network system requirements

Connection type: 100Base-T

Max. required network bandwidth: 10 Mb

Protocol types: TCP, UDP, SMTP, HTTP, NTP

Required ports: for port configuration, please refer to **NETWORK** menu

2.5 Hard Disk Drive Installation

The first step in installing the hard drive is to insert the hard drive sleeve into the machine. The hard disk drive default setting is initially set to master. The second step is to insert the key provided and turn the tray key to the lock position. If this process is ignored the hard disk drive will not be detected. Follow the previous steps for the second hard drive or second empty sleeve. The HDD should be set as MASTER. Otherwise, HDD will not be detected.

- ***Note: A HDD has to be installed before EDR1640/1620/920 is booted, or the EDR1640/1620/920 will not detect a HDD until you***

reboot it with a HDD. Please make sure the HDD indicator light is ON. If the Hard Disk Drive is not locked in with the key a system loading screen will keep flashing and the DVR will not go into record mode. This is because the Hard Drive is not being recognized.

- ***Note: After powering on the DVR, it will start to load system. It takes a while to complete loading system, during this time, please do not install or remove the hard disk, none action is recommended when the machine is loading system***

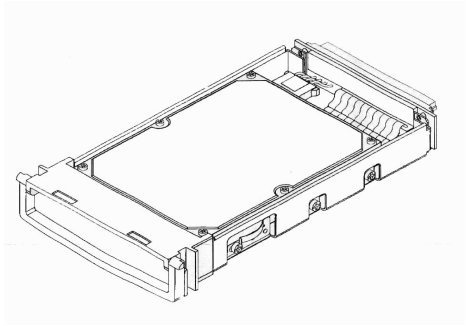


Diagram 2.11shows 3.5“ Hard Drive

2.3 Final Install Process

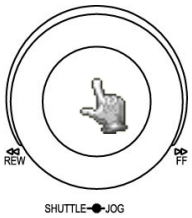
Once you have completed the basic wiring installation and the hard disk drive installation you are ready to turn on the DVR. Simply plug the power source and turn the switch on position. The POWER LED lights will light up if power is normal. The next step is to set up the menu options for the DVR.

DVR Menu Setup

Assuming you have completed the first two chapters of this manual. You are now ready to begin setting up the digital video recorder. The following chapter will walk you through the detailed DVR Menu step by step and how to set the DVR for your specific application. To begin this process, press the **MENU** key. Once inside the main menu you will find there are 12 setup option pages as follows.

MENU

Press **MENU** key to enter the **MAIN MENU**.
Press **MENU** key or click on the arrow at the top right corner of the screen with a mouse to quit current setting and go back to last setting.



Dial the **Jog** clockwise or counterclockwise to change subentry values. Press the **ENTER** key to go next subentry in a menu setting, and press the **CALL** key to go last subentry in a menu setting. Or, simply use the mouse to go next or last subentry in a menu setting and use tilt wheel of the mouse to move between every selection.

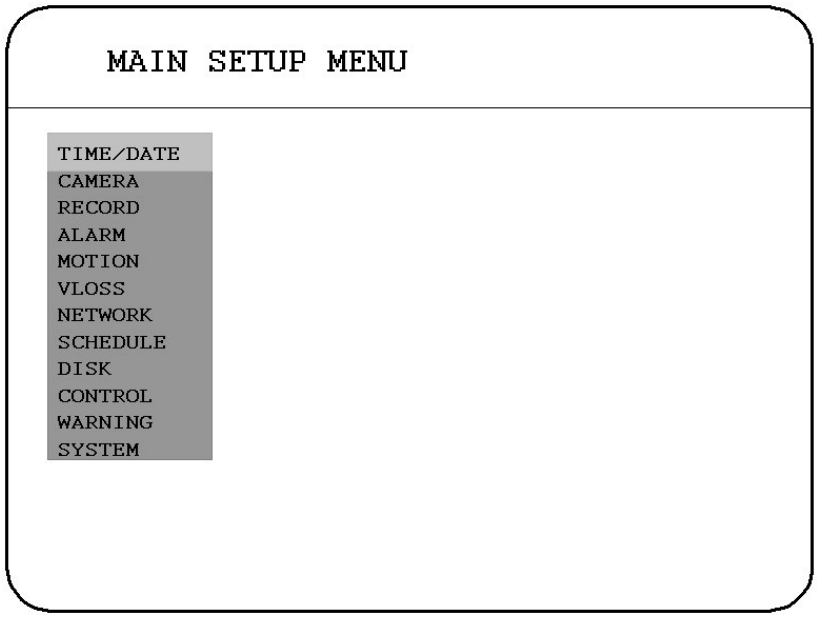


Diagram 3.1

3.1 Time/Date Setup Menu

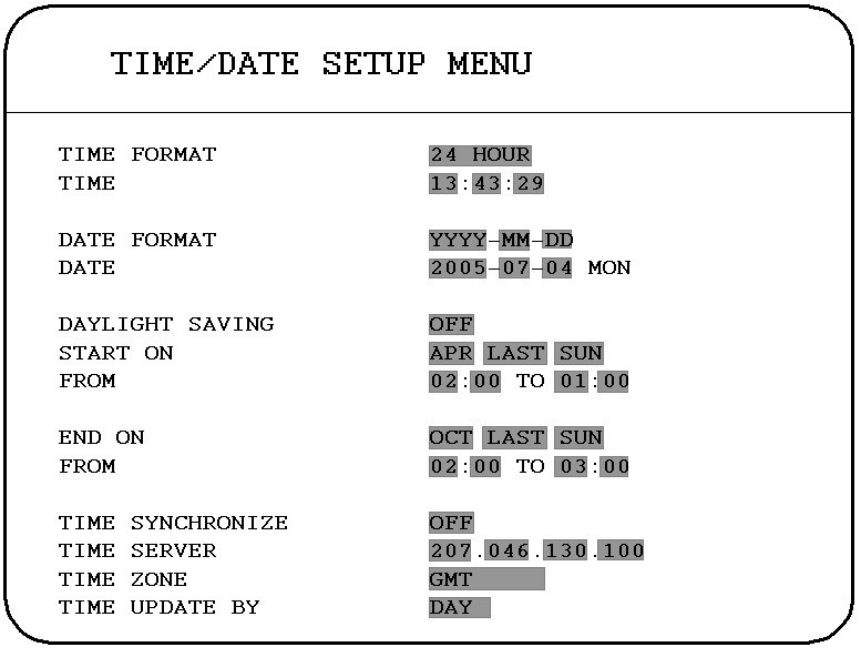


Diagram 3.2

Diagram 3.2 is a screen shot of the **TIME/DATE SETUP MENU**. This menu is used to set up the correct time and date for your region of the world. You are able to setup daylight savings as well as synch it with an internet based time server. In the **TIME/DATE SETUP MENU** the following fields are defined as follows:

- **TIME FORMAT:** This field represents the time format on the DVR. There are two time formats that are **12 HOUR** and **24 HOUR** to be selected.

- **TIME:** This field represents the current time on the DVR. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

  The Time is represented as follows:

  Hour: 00~23: Minute: 00~59: Second: 00~59 (1 ~ 12 if TIME FORMAT is 12 HOUR)

- **DATE FORMAT:** This field represents the date format on the DVR. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection. There are three date formats which are **YYYY-MM-DD**, **MM-DD-YYYY** and **DD-MM-YYYY** to be selected.

- **DATE:** This field represents the date on the DVR. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your

selection. There are three date formats which are **YYYY-MM-DD**, **MM-DD-YYYY** and **DD-MM-YYYY** to be selected.

The date is represented as follows:

Year: 2000~2099 / Month: 01~12 / Date: 01~31 (Day of Week)

- **DAYLIGHT SAVING:** This field represents the daylight savings on the DVR. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection. Select "**ON**" or "**OFF**" to enable or disable daylight saving time function. In order to set a daylight saving time zone, you need to disable daylight saving first. Enable the daylight saving after finish setting the time zone.

START TIME: To set the start time of daylight saving time.

To set the start month of daylight saving time: Dial the jog to set the start month.

To set the start week of daylight saving time: Dial the jog to set the start week.

To set the start date of daylight saving time: Dial the jog to set the start date.

To set the start time of daylight saving time: To set the start "**FROM**" time and "**TO**" time of daylight saving time.

END TIME: To set the end time of daylight saving time.

To set the end month of daylight saving time: Dial the jog to set the end month.

To set the end week of daylight saving time: Dial the jog to set the end week.

To set the end date of daylight saving time: Dial the jog to set the end date.

To set the end time of daylight saving time: To set the end □ **ROM**□time and □ O□**ti**me of daylight saving time.

- **TIME SYNCHRONIZE:** Select "**ON**" or "**OFF**" to enable or disable time synchronize which can let you have correct time automatically when network is connected. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **TIME SERVER:** You can set the time server address where you locate if you connect to network and enable time synchronize. For checking the IP address of NTP Server, please follow the steps:

  1. Connect your PC to the internet for searching the IP address of NTP Server.

  2. Go to "START" -> "RUN" -> type "Command" and press "OK"

     Under Dos Prompt, type "C:\Ping Pool.NTP.ORG to find out the IP address of NTP Server.

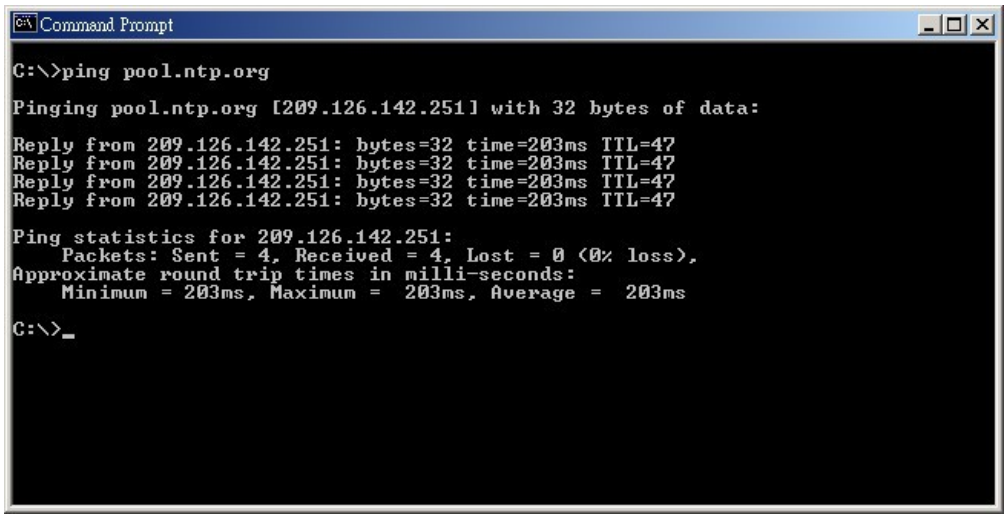

Command Prompt
C:\>ping pool.ntp.org
Pinging pool.ntp.org [209.126.142.251] with 32 bytes of data:
Reply from 209.126.142.251: bytes=32 time=203ms TTL=47
Reply from 209.126.142.251: bytes=32 time=203ms TTL=47
Reply from 209.126.142.251: bytes=32 time=203ms TTL=47
Reply from 209.126.142.251: bytes=32 time=203ms TTL=47
Ping statistics for 209.126.142.251:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 203ms, Maximum = 203ms, Average = 203ms
C:\>

Diagram 3.3

- **TIME ZONE:** You can set the time zone where you locate if you connect to network and enable time synchronize.

  Atlantic Daylight Time subtract 3 hours from GMT
  Atlantic Standard Time subtract 4 hours from GMT
  Eastern Daylight Time subtract 4 hours from GMT
  Eastern Standard Time subtract 5 hours from GMT
  Central Daylight Time subtract 5 hours from GMT
  Central Standard Time subtract 6 hours from GMT
  Mountain Daylight Time subtract 6 hours from GMT
  Mountain Standard Time subtract 7 hours from GMT
  Pacific Daylight Time subtract 7 hours from GMT
  Pacific Standard Time subtract 8 hours from GMT
  Alaska Daylight Time subtract 8 hours from GMT
  Alaska Standard Time subtract 9 hours from GMT
  Hawaii-Aleutian Daylight Time subtract 9 hours from GMT
  Hawaii-Aleutian Standard Time subtract 10 hours from GMT

- **TIME UPDATE BY:** Once you enable the **TIME SYNCHRONIZE**, you can select the synchronization frequency by:

  DAY WEEK MONTH

3.2 Camera Setup Menu

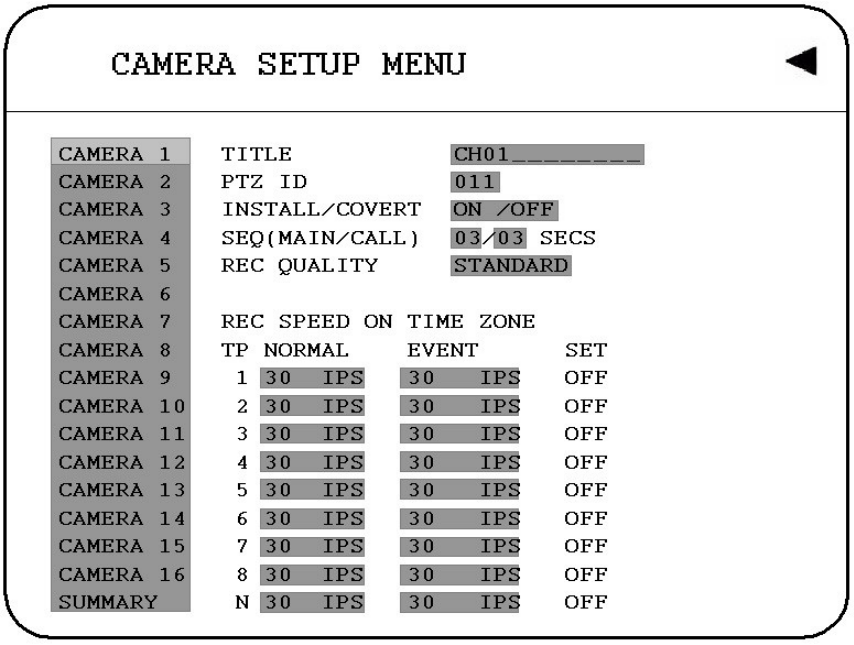


Diagram 3.4

Diagram 3.4 is a screen shot of the **CAMERA SETUP MENU**. This menu will walk you through setting up the Camera Recording Speeds, Camera titles, covert modes, and recording quality. In the **CAMERA SETUP MENU** the following fields are defined as:

- **TITLE:** The title setting allows you to assign a title to each camera input. Titling with 12 characters is supported in each channel. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection. The available alphanumeric characters are:

  0,1,2,3,4,5,6,7,8,9,
  A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X,Y,Z,
  ( ) . , + - / and an empty space.

- **PTZ ID:** Select PTZ ID/Address from 001~255 or OFF. The default value is 10+N where N is camera's number. This ID must be the same as the ID used in PTZ Dip Switch. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **INSTALL/COVERT:** For installation of camera; select "ON" to enable a camera, and "OFF" to disable it. Please make sure to stop

recording before making change of **INSTALL**. To take full advantage of the record resource, switch the Uninstalled Camera Ports to OFF in this section. For covert, select "ON" to cover a camera, and disable the screen in live mode to show up. However, the image is recorded, and can be played back by user who has playback right. The covert channels will not show up on the sequence mode. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **SEQ (MAIN/CALL):** Setup a retention period for sequences. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **REC QUALITY:** Select an image quality for recording. Normal record image quality and event record image quality can be set individually. There are six different qualities available. A higher image quality needs more HDD space. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection. The theory space needed per second lists below:

720x480		Video Source	
		Simple:	Complex:
Average size per image	LOWER:	8.04KB	12.33KB
	LOW:	8.42KB	13.7KB
	BASIC:	10.15KB	16.72KB
	STANDARD:	11.86KB	19.56KB
	HIGH:	14.72KB	24.63KB
	SUPERIOR:	18.60KB	30.05KB
720x240		Video Source	
		Simple:	Complex:
Average size per image	LOWER:	3.53KB	7.82KB
	LOW:	3.87KB	8.36KB
	BASIC:	4.21KB	8.9KB
	STANDARD:	4.92KB	9.54KB
	HIGH:	5.62KB	10.17KB
	SUPERIOR:	6.41KB	12.89KB
360x240		Video Source	
		Simple:	Complex:
Average size per image	LOWER:	1.76KB	4.56KB
	LOW:	1.87KB	4.87KB
	BASIC:	1.97KB	5.46KB
	STANDARD:	2.38KB	6.51KB

	HIGH:	2.67KB	7.08KB
	SUPERIOR:	3.63KB	9.02KB

Note: Since the compression ratio of MPEG4 fully depends on the variation and complexity of the recorded video, the table above is for your reference only.

Note: Please download our online calculator from http://www.everfocus.com/tools.htm for a more exact system storage size and time.

- **REC SPEED ON TIME ZONE:**

TP: Scheduled recording time 1~8 which can be set in the **SCHEDULE SETUP MENU.** "N" in the column of "TP" is the normal recording time.

NORMAL: Normal record speed (Images per second) up to 30 IPS. EDR810/410 will adjust to the maximum recording speed by calculating the total installed cameras that have enabled in the **CAMERA SETUP MENU**.

EVENT: Event record speed (Images per second) up to 30 IPS or "**OFF**".

Note: In order to validate a new record speed, you need to disable all record actions before setting up.

SET: Set "**ON**" when using schedule recording.

Set "**OFF**" when not using schedule recording.

Note: The status of SET can only be changed in the SCHEDULE SETUP MENU.

- **SUMMARY :**

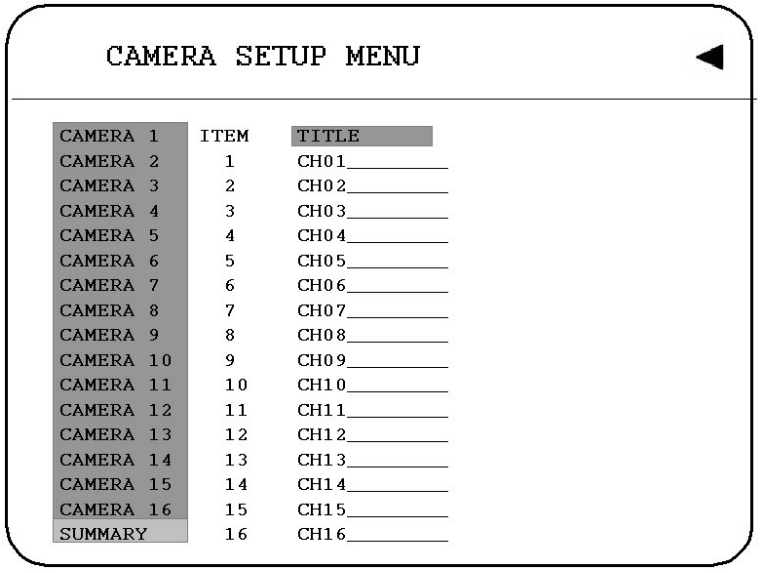


Diagram 3.5

Dial **Jog** to change items in the **SUMMARY** table.

All cameras' statuses are shown in the **SUMMARY** table. The table is for checking camera overall statuses only, not for setting.

Note: The SUMMARY table also exists in ALARM, MOTION and VLOSS SETUP MENU. All of these SUMMARY tables are also for checking particular overall statuses, not for setting.

- **Copy camera's setting from a camera to other cameras:** In order to copy the setting from a camera to other cameras, we provide a setting copy function. Press **MENU** when you finish setting up a camera, and then press **COPY**. A **COPIED** sign will show up on the top right corner of the screen, and it means the setting has been copied. Dial the **Jog** to the camera you would like to copy, and then press **SEARCH** to paste. The previous setting of the camera will be covered, and a **PASTED** sign will show up on the top right corner.

  NOTE: TITLE, PTZ ID, INSTALL/COVERT cannot be copied. These 3 options need to be set independently.

3.3 Record Setup Menu

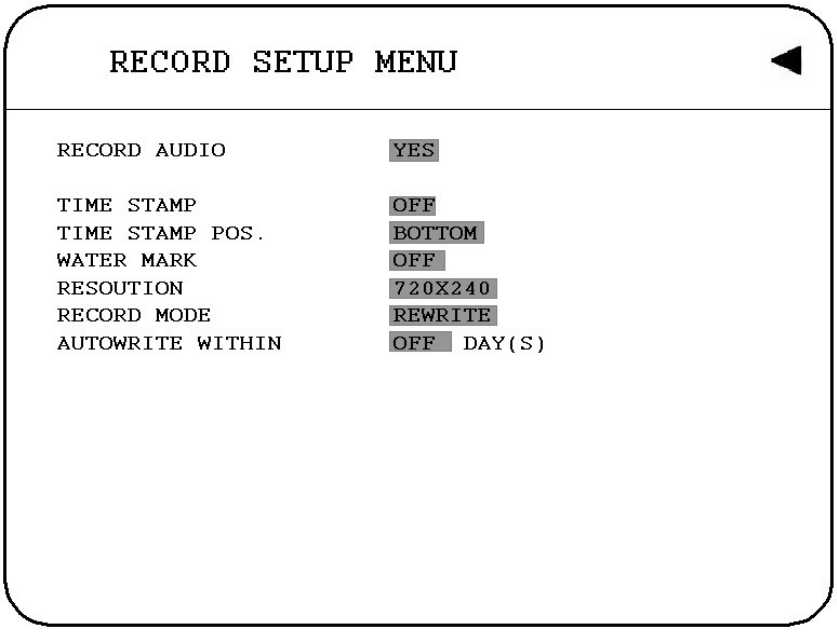


Diagram 3.6

Diagram 3.6 is a screen shot of the **RECORD SETUP MENU**. This menu is for setting up the options for recording. We define recording as something on which sound or visual images have been recorded. In the **RECORD SETUP MENU** the following fields are defined as follows:

- **RECORD AUDIO:**

  YES: Audio will be recorded when machine is recording.

  NO: Audio will not be recorded when machine is recording.

- **TIME STAMP:**

  ON: The time stamp will show on the video and picture when recording.

  OFF: The time stamp will not show on the video and picture when recording.

- **TIME STAMP POSITION:**

  BOTTOM: The time stamp will show on the bottom.

  TOP: The time stamp will show on the top.

- **WATER MARK:**

  ON: Shows a water mark on the picture when copying image to CF card or USB flash memory.

  OFF: This erases the water mark on the picture when copying image to CF card or USB flash memory.

- **RESOLUTION:** The resolutions for NTSC are 720x480, 720x240 and 360x240 to be selected. Its default value is 720x240. The resolutions for PAL are 720x288, 720x576 and 360x288 to be selected. Its default value is 720x288.

  NOTE: Selecting a certain resolution will determine the amount of IPS the DVR will support.

  NTSC
  720x480 = 30 IPS (this IPS value is divided by the amount of cameras installed)
  720x240 = 60 IPS (this IPS value is divided by the amount of cameras installed)
  360x240 = 120 IPS (this IPS value is divided by the amount of cameras installed)

- **RECORD MODE:**

  REWRITE: Continue recording. Disk will be overwritten if it is full.

  STOP: Stop recording when disk is full.

- **AUTOWRITE WITHIN:** You can set DVR auto write day, so that DVR will auto write after the day number you set. If you do not wish to use this function, please set it OFF.

3.4 Alarm Setup Menu

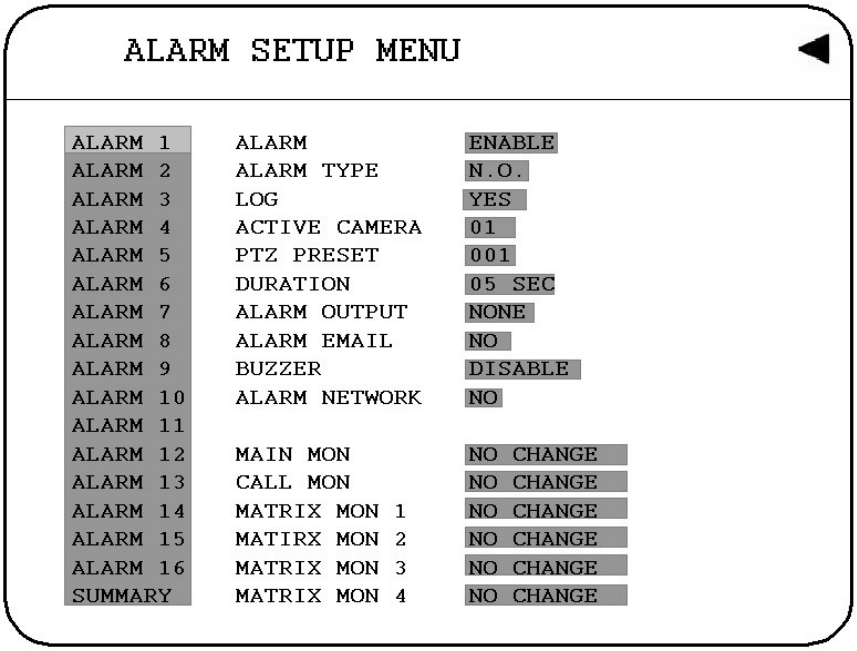


Diagram 3.7

Diagram 3.7 is a screen shot of the **ALARM SETUP MENU**. An alarm is defined as an electrical, electronic, or mechanical device that serves to warn of danger by means of a signal. In this case the signal triggers the recorder to start recording the alarmed event. This menu contains all the alarm operations and options needed to successfully complete an alarm recording. In the **ALARM SETUP MENU** the following fields are defined as:

- **ALARM:** This field is to turn alarm recording on or off. The Default from the factory is set to on. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

  ENABLE: Enable alarm detection.
  DISABLE: Disable alarm detection.

- **ALARM TYPE:** This field is to turn alarm recording on or off. The Default from the factory is set to on. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

  N. O.: Normal Open alarm.

  N. C.: Normal Close alarm.

N.O. Trans.: When the alarm is triggered, buzzer starts to function no matter how long the alarm duration is set until you set it back to N.O.

N.C. Trans.: When the alarm is triggered, buzzer starts to function no matter how long the alarm duration is set until you set it back to N.C.

- **LOG:** This Field if you want to log Motion Events.

  YES: Select **YES** if you wish to record Motion Events in the Log.

  NO: Select **NO** if you do not wish to Log the Events.

- **ACTIVE CAMERA:** This field is to activate camera you want to have the alarm enabled too. For example if you had an external motion detector on camera one you would set this option to camera one. The Default from the factory is set to on. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

Active camera setting from camera 01~16. You can set the camera which corresponds to the place where the alarm is located.

Note: The recording camera number in an event depends on the alarm number, and the active camera images will not be recorded. Example: You assign camera 3 as the active camera to alarm 1. When the alarm 1 is triggered, camera 3 will be displayed and camera 3 will be recorded.

- **PTZ PRESET:** Select **PTZ PRESET** from "**001**" to "**255**", so that when Alarm occurs, speed dome will turn to this preset position for event recording. This function improves surveillance quality of an alarm event. If you wish to disable this function, please simply select "**OFF**".

- **RETRIGGER:** Re-trigger the alarm until the alarm is back to the normal state.

  YES: The duration time starts when an alarm is triggered. The duration time restarts from 0 when a new alarm is triggered during an alarm action.

  NO: The alarm signal will not be triggered again during duration time.

- **DURATION:** The amount of time an alarm event will record - from 1 sec to 99 seconds. The default value is 5 seconds.

- **ALARM OUTPUT:** This will transmit a signal to another device. The setting of alarms are **NONE = not activated** and **1 = one output signal transmitted.**

- **ALARM EMAIL:** Select "**YES**" for sending an email when alarm occurs. The email address can be set in the **NETWORK SETUP MENU**.

- **BUZZER:** Audible alarm buzzer.

  ENABLE: To enable an alarm buzzer.

  DISABLE: To disable an alarm buzzer.

- **ALARM NETWORK:**

  YES: Enable alarm network.

  NO: Disable alarm network.

- **MAIN MON:** Display on a main monitor when an alarm occurs.

  NO CHANGE: No change on the display in the main monitor when an alarm occurs.

  FULLSCREEN: A full screen of the active camera will display when an alarm occurs.

- **CALL MON:** Display on a call monitor when an alarm occurs.

  NO CHANGE: No change on the display in the main monitor when an alarm occurs.
  SEQUENCE: Display in the sequence mode when an alarm occurs (Full Screen of selected cameras).

  ACTIVE CAMERA: Displays the active camera in full screen mode on the call monitor.

- **MATRIX (1 - 4) MON:** Display on a matrix monitor (1–4) when an alarm occurs.

  NO CHANGE: No change on the display in the main monitor when an alarm occurs.

CAMERA 1~16: Display an assigned camera in full screen mode to the matrix monitor (1-4).

- **SUMMARY:** Dial **Jog** to change items in the **SUMMARY** table. All alarm's statuses are shown in **SUMMARY** tables. These tables are for checking alarm overall statuses, but not for setting.

  Note: Please check APPENDIX C to see other available alarm input / output functions.

- **Copy camera's setting from one camera menu to another cameras menu:** In order to copy the settings from a camera menu to other cameras menu, we provided a setting copy function or better known as a COPY & PASTE. Press **MENU** when you finish setting up a camera, and then press **COPY**. A **COPIED** sign will show up on the top right corner of the screen, it means that the setting has been copied. Dial the **Jog** to the camera you would like to copy, and then press **SEARCH** to **paste**. The previous setting of the camera will be covered, and a **PASTED** sign will show up.

Turn the *JOG* dial clockwise or counter clockwise to select the options.

JOG DIAL

Press *ENTER* key to move forward through the columns

ENTER

Press *DISPLAY* key to move backward through the columns

DISPLAY

Press *MENU* key to return to Main Menu, Press again to leave Setup Menu.

MENU

3.5 Motion Setup Menu

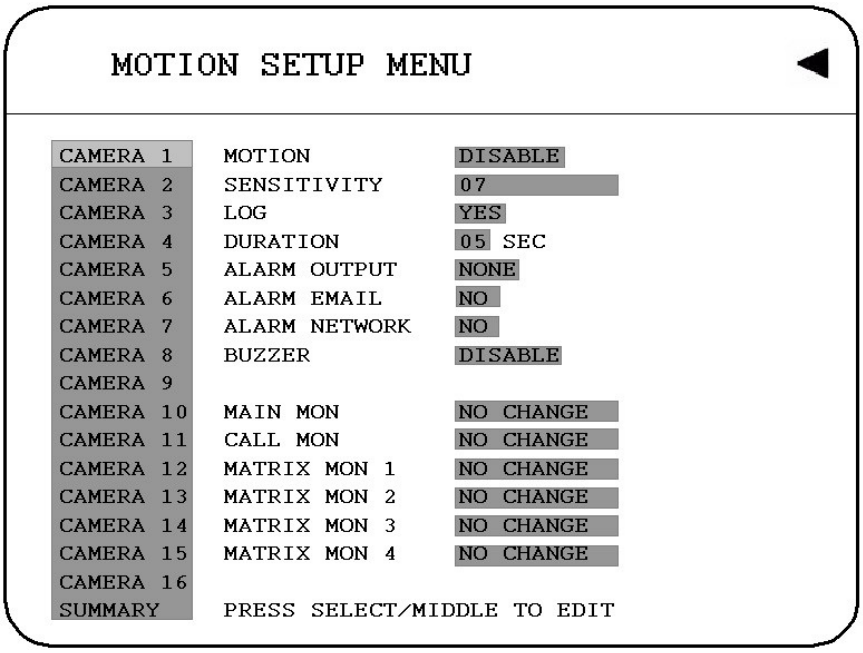


Diagram 3.8

Diagram 3.8 is a screen shot of the **MOTION SETUP MENU**. We define motion as a change of pixilation in the field of view, which is detected by the digital video recorder, and triggering the recorder to start recording. This menu is for setting up the digital recorder for motion recording on a per camera basis. In the **MOTION SETUP MENU** the following fields are defined as follows:

- **MOTION:** This field is to turn motion recording on or off. The Default from the factory is set to off or disabled. Motion is also

considered an event. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

ENABLE: Enable motion detection.
DISABLE: Disable motion detection.

Note: Motion only works in live and playback modes. It is invalid when you are setting menus.

- **SENSITIVITY:** The sensitivity allows users to adjust to a suitable motion detection sensitivity. There are 10 sensitivities available; level 1 is the lowest, and level 10 is the highest sensitivity. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.
- **LOG:**

  YES: Select **YES** if you wish to record Motion Events in the Log.

  NO: Select **NO** if you do not wish to record Motion Events in the Log.

- **DURATION:** The amount of time a motion event will record - from 1 sec to 99 seconds. The default value is 5 seconds. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **ALARM OUTPUT:** This will transmit a signal to another device. The setting of alarms are **NONE = not activated, 1 = output signal 1 transmitted, 2 = output signal 2 transmitted, 3 = output signal 3 transmitted and 4 = output signal 4 transmitted.** To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **ALARM EMAIL:**

  YES: Sends an email when an alarm occurs.

  NO: Does not send an email when an alarm occurs.

  The email address and e-mail server can be set in the **NETWORK SETUP MENU.**

- **ALARM NETWORK:**

  YES: Enables alarm network when alarm occurs.

  NO: Disables alarm network when alarm occurs.

- **BUZZER:** Motion buzzer.

  ENABLE: To enable a motion buzzer.

  DISABLE: To disable a motion buzzer.

- **BUZZER:** Audible buzzer when motion is detected.

- **MAIN MON:** Display on a main monitor when an alarm occurs.

  NO CHANGE: No change on the display in the main monitor when an motion occurs.

  FULLSCREEN: A full screen of the active camera will display when motion occurs.

- **CALL MON:** Display on a call monitor when motion occurs.

  NO CHANGE: No change on the display in the main monitor when motion occurs.
  SEQUENCE: Display in the sequence mode when motion occurs (Full Screen of selected cameras).

  ACTIVE CAMERA: Displays the active camera in full screen mode on the call monitor.

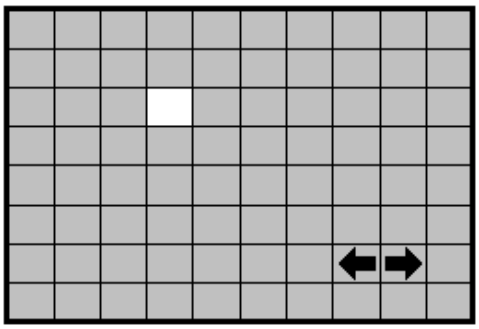
- **MATRIX (1 - 4) MON:** Display on a matrix monitor (1–4) when an alarm occurs.

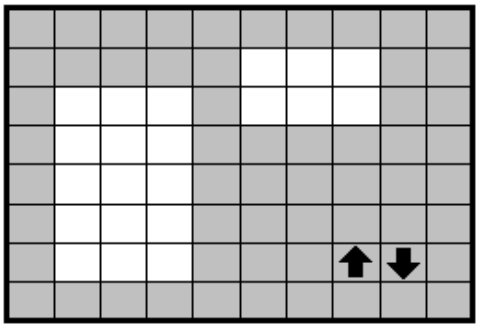
  NO CHANGE: No change on the display in the main monitor when an alarm occurs.

  CAMERA 1~16: Display an assigned camera in full screen mode to the matrix monitor (1-4).

- **SUMMARY:** Dial **Jog** to change items in the **SUMMARY** table. All alarm's statuses are shown in **SUMMARY** tables. These tables are for checking alarm overall statuses, but not for setting.

- **Press SELECT To Edit (MOTION AREA)** Enter a desired channel and press **SELECT** to edit a motion area. Please make sure that MOTION is set as "**Enable**" before entering the motion detection area.





In the motion edit mode:

The default motion area of each camera is entire screen which displays in light green.

Press **COPY** to start to set an area. Then press **SEARCH** to end and enable the area, or press **PAUSE** to end and disable the area.

Dial **JOG** to select a horizontal ⬅➡ or a vertical ⬅➡ area, and press **ENTER** to switch a horizontal ⬆⬇ or vertical ⬆⬇ area.

Press **MENU** to quit the motion area edit.

- **To test a motion area:** Grids will turn into light red from light green when a motion is detected.
- **To clear the motion entire area:** Press **PLAY** to clear the entire motion area.
- **If you forget the motion grid commands:** Press **DISPLAY** to get a hint window (shows below) in motion edit mode.

MENU	**- EXIT**
COPY	**SELECT AREA**
ENTER	**CHANGE DIR**
SEARCH	**- ON AREA**
PAUSE	**- OFF AREA**

- **Copy camera's setting from a camera to other cameras:** In order to copy the setting from a camera to other cameras, we provide a setting copy function. Press **MENU** when you finish setting up a camera, and then press **COPY**. A **COPIED** sign will show up on the top right corner of the screen, and it means the setting has been copied. Dial the **Jog** to the camera you would like to copy, and then press **SEARCH** to paste. The previous setting of the camera will be covered, and a **PASTED** sign will show up.

3.6 VLoss Setup Menu

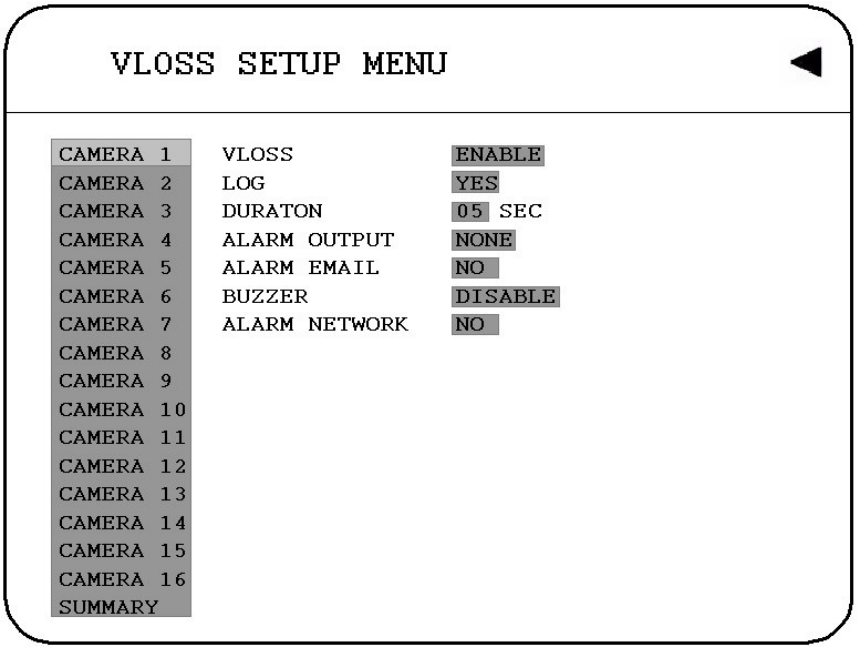


Diagram 3.9

Diagram 3.9 is a screen shot of the **VLOSS (Video Loss) SETUP MENU**. VLoss event is caused by no video signal input for the channel. Usually it happens when no power supply for the camera or the camera fails. How to set up system response for VLoss case is introduced in this section. In the **VLOSS (Video Loss) SETUP MENU** the following fields are defined as follows:

- **VLOSS:**

  ENABLE: Enable video loss detection.
  DISABLE: Disable video loss detection.

- **LOG:**

  YES: Select **YES** if you wish to record Motion Events in the Log.

  NO: Select **NO** if you do not wish to record Motion Events in the Log.

- **DURATION:** The amount of time a vloss event will record - from 1 sec to 99 seconds. The default value is 5 seconds. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **ALARM OUTPUT:** This will transmit a signal to another device. The setting of alarms are **NONE = not activated, 1 = output signal 1 transmitted, 2 = output signal 2 transmitted, 3 = output signal 3 transmitted and 4 = output signal 4 transmitted.** To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **ALARM EMAIL:** Select "**YES**" for sending an email when vloss occurs. The email address can be set in the **NETWORK SETUP MENU (Section 3.7)**.

- **BUZZER:** Audible alarm buzzer.

  ENABLE: To enable a vloss buzzer.

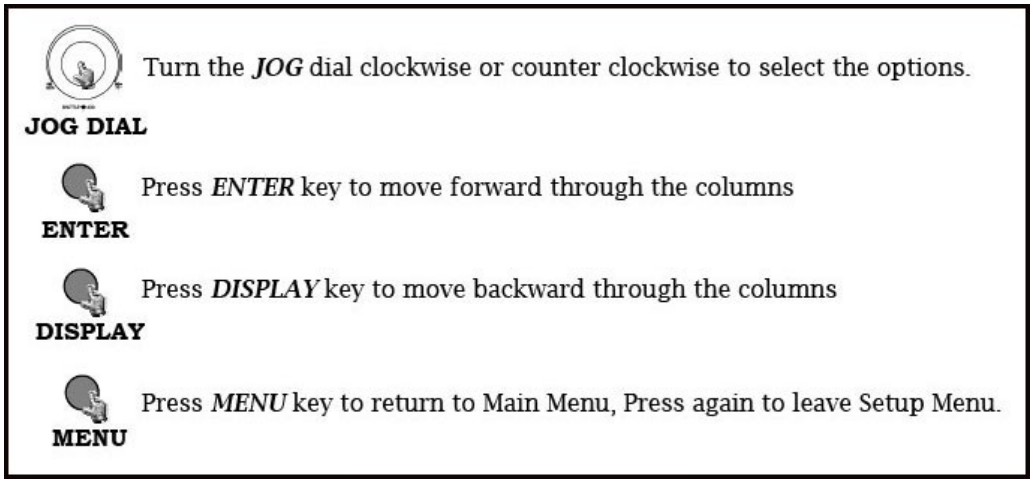
  DISABLE: To disable a vloss buzzer.

- **ALARM NETWORK:**

  YES: Enable alarm network.

  NO: Disable alarm network.

- **SUMMARY:** All video loss's statuses are shown in SUMMARY tables. These tables are for checking video loss overall statuses, but not for setting.


Turn the *JOG* dial clockwise or counter clockwise to select the options.
JOG DIAL
Press *ENTER* key to move forward through the columns
ENTER
Press *DISPLAY* key to move backward through the columns
DISPLAY
Press *MENU* key to return to Main Menu, Press again to leave Setup Menu.
MENU

3.7 Network Setup Menu

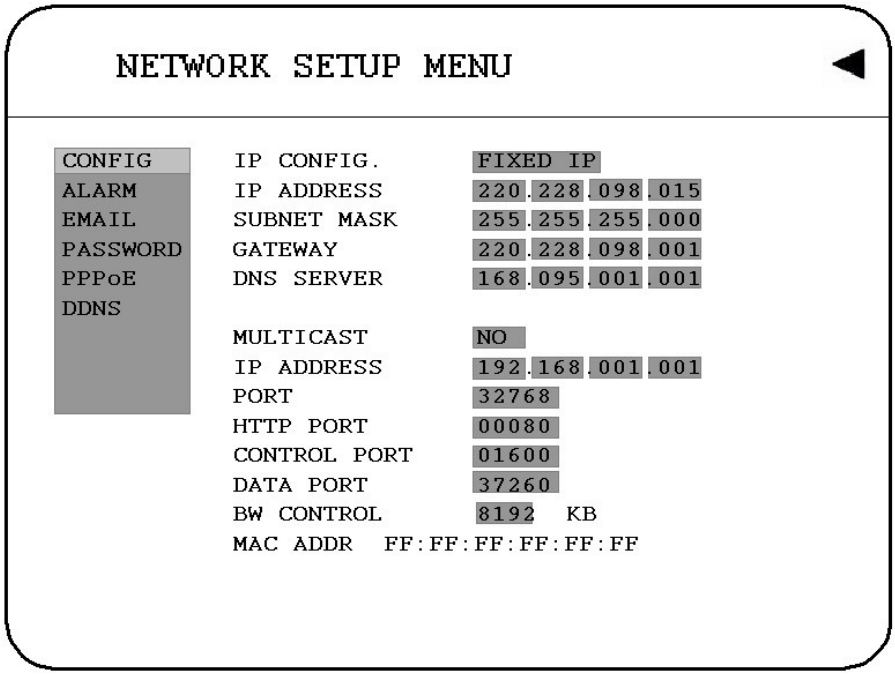


Diagram 3.10

Diagram 3.10 is a screen shot of the **NETWORK SETUP MENU**. This menu is for setting up the configurations for networking to the DVR. There are 6 subentries that are **CONFIG, ALARM, EMAIL, PASSWORD, PPPoE** and **DDNS** in the **NETWORK SETUP MENU**. Each of them has to be set up completely before the network functions. Please refer to the Networking Chapter of this manual to fully understand how to setup your network for this DVR. In the Network Setting Menu the following fields are defined as follows:

Note: Since every Network Configuration is different, please contact your Network Administrator or ISP for how to assign those IP addresses and port numbers.

3 CONFIG

In the **CONFIG** of the **NETWORK SETUP MENU,** we define:

- **IP CONFIG:**

  FIXED IP: User can set the fixed IP for network connection.

DHCP: DHCP server in LAN will provide the dynamic IP for network connection

PPPoE: This is a DSL connection application, ISP will ask user for inputting user name and password. When you choose this option, please go to PPPoE configuration menu for setting PPPoE configuration.

- **IP Address:** This field is to set a static IP Address for the DVR. A static IP address is an IP address whose value does not change. Everfocus suggest using a static IP address. If your Internet provider does not offer a static IP address you have the option to use a dynamic IP address. For Example: A Test IP address given to the machine by our engineers is 192.168.010.002. When DHCP is YES, the DHCP server will assign this value automatically.

  - ***Note: The Addresses in the machine are for our own testing you must apply your own addresses to comply with your network. Refer to Networking Chapter for more details.***

  To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **SUBNET MASK:** This field is to set the subnet mask for your network so as the DVR will be recognized within the network. Example: 255.255.255.000. When DHCP is YES, the DHCP server will assign this value automatically. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **GATEWAY:** This field is to set the gateway for your network so the DVR will be recognized within the network. An example of this is provided within the DVR we use to test the machine within our own network. When DHCP is YES, the DHCP server will assign this value automatically. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **DNS SERVER:** This field is to set the DNS server for your network so the DVR will be recognized within the network. An example of this is provided within the DVR we use to test the machine within our own network. Assign a DNS server to EDR810, for example: 168.195.001.001. When DHCP is YES, the DHCP server will assign this

value automatically. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **MULTICAST:** This is network casting, it allows DVR to multi-cast through a router and this router will route to different end points.

  YES: to enable Multicast function.
  NO: to disable Multicast function.

- **IP ADDRESS:** This is the router's IP address. Please input the IP address of router.

- **PORT:** Port of Multicast. Please configure the port number.

- **HTTP PORT:** The default port number is 80. User can change it to different port number for HTTP/WEB communication between DVR and client PC.

- **CONTROL PORT:** The default port number is 1600. User can change it to different port number for controlling comment between DVR and client PC.
  - ***Note: If you wish to have multiple users log into the DVR please open a range of ports on your router. For example if you use the default port 1600 you would open ports 1600-1604 on your router. This will allow 5 clients to login***

- **DATA PORT:** The default data transmitting port number is 32760. User can change it to different port number for data transfer between DVR and client PC.
  - ***Note: If you wish to have multiple users log into the DVR please open a range of ports on your router. For example if you use the default port 32760 you would open ports 32760-32764 on your router. This will allow 5 clients to login***

- **BW CONTROL:** This configuration allows user to control the amount of bandwidth the DVR it transmitting.

- **MAC ADDRESS:** This field is for those Internet service providers or Network administrators who require a MAC address of the network card of our DVR. This option can not be changed.

4 ALARM NETWORK (Reserved)

DVR can send out Alarm message to an Alarm Server (PowerCon4). This function is reserved to work with our Control Management System – PowerCon. In the **ALARM** of the **NETWORK SETUP MENU,** we define:

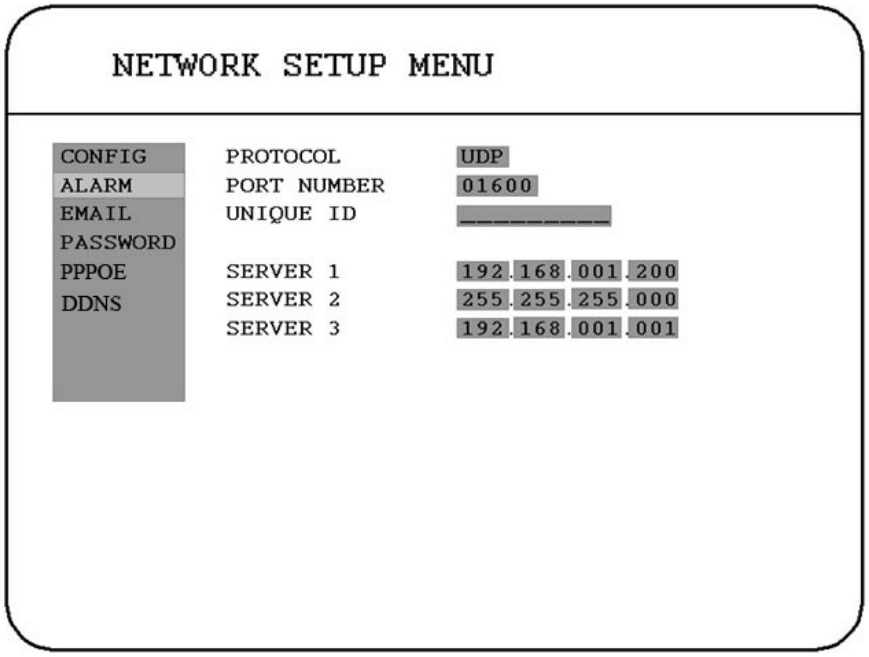


Diagram 3.11

Note: Since every Network Configuration is different, please contact your Network Administrator or ISP for how to assign those IP addresses and port numbers.

- **PROTOCOL:** Select which communication protocol with Alarm servers or Alarm receiving clients.

  TCP: communicate with client via TCP protocol.

  UDP: communicate with client via UDP protocol

- **PORT NUMBER:** setting the communication port with Alarm server.

- **UNIQUE ID:** setting the ID number of your DVR to Alarm server.

- **SERVER 1:** assign the IP address of Alarm server 1.

- **SERVER 2:** assign the IP address of Alarm server 2.

- **SERVER 3:** assign the IP address of Alarm server 3.

5 EMAIL

In the **EMAIL** of the **NETWORK SETUP MENU,** we define:

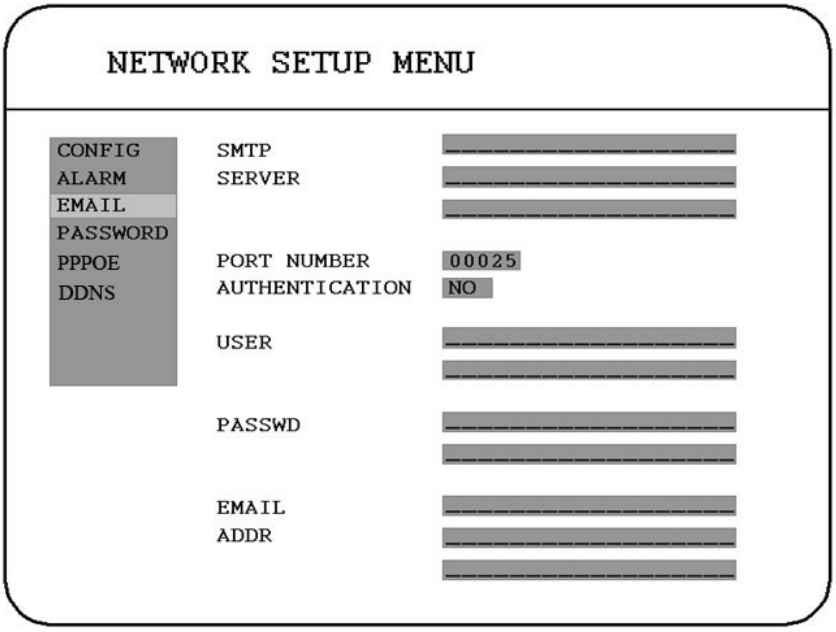


Diagram 3.12

- **SMTP SERVER:** assign the SMTP (e-mail) server's address or your email servers IP address.

- **PORT NUMBER:** assign the port number for SMTP server.

- **AUTHENTICATION:** select "YES", if the SMTP server requires Authentication (user name / password)

- **USER:** Input the login user ID if the SMTP server requires Authentication.

- **PASSWORD:** Input the password if the SMTP server requires Authentication.

- **EMAIL ADDR:** Input the e-mail address for receiving e-mail message when the EVENT is enabled and triggered. For example: In Motion Setup Menu, if the "EMAIL/NETWORK" is set to "YES", this e-mail address will receive a text message and an "ARV" format of a still image from DVR when Motion is triggered. This "ARV" file can be played back by opening "EDRViewer.exe" that you downloaded from the DVR or the Remote Viewer (Browser) or from the Copy Menu (labeled viewer). In Alarm Setup Menu, if the "ALARM EMAIL" is set to "YES", this e-mail address will receive a text message and an "ARV" format of a still image from DVR when the Alarm is triggered. This "ARV" file can be played back by opening "EDRViewer.exe" that you downloaded from the DVR or the Remote Viewer (Browser) or from the Copy Menu (labeled viewer)

  Note: If you are unable to play "AVI" file downloaded from "DVRViewer", your PC is required to install "CODEC", please go to the following URL: http://www.divx.com/divx/play/download/index.php for downloading DivXPlay.exe. This will enable you to play "AVI" file successfully.

6 PASSWORD

In the **PASSWORD** of the **NETWORK SETUP MENU,** we define:

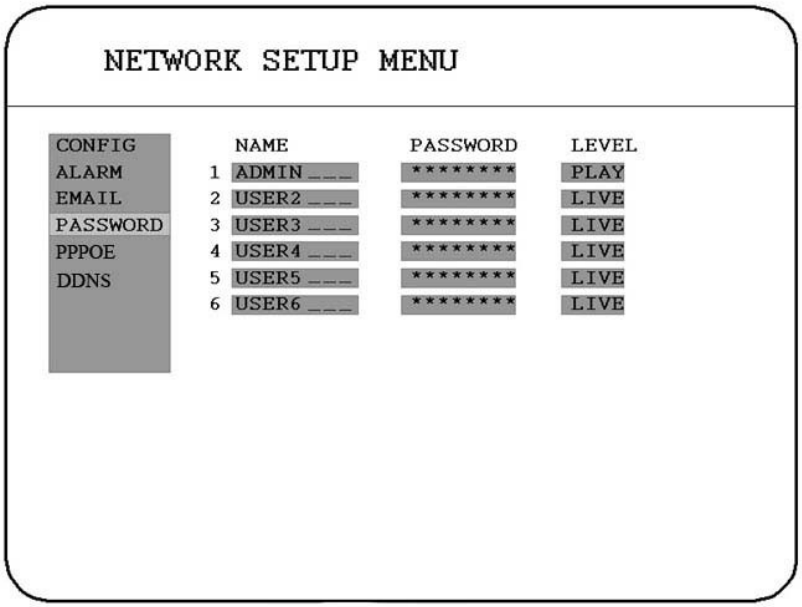


Diagram 3.13

- User-Name Password Level: This category is to set up the users that will log into the network. Please remember that this portion of the Network setting menu is set up in column format.
  The default User Name = admin
  The default Password = 11111111 (only numeric)

  There are 2 level types:

  - Play: Allows the user to view live video, perform a search, playback and control the a PTZ camera (if one is connected)
  - Live: Allows the user only to view live video
  - To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

	USER-NAME	Password	Level
Example:	admin	11111111	Play
Changed to	Adam	22222222	Play

- Please remember there are only three different levels guest, general, and super.

    - "Admin" and "General" – can view live/playback video
    - "Guest" – can only view live.

7 PPPOE

In the **PPPOE** of the **NETWORK SETUP MENU,** we define:

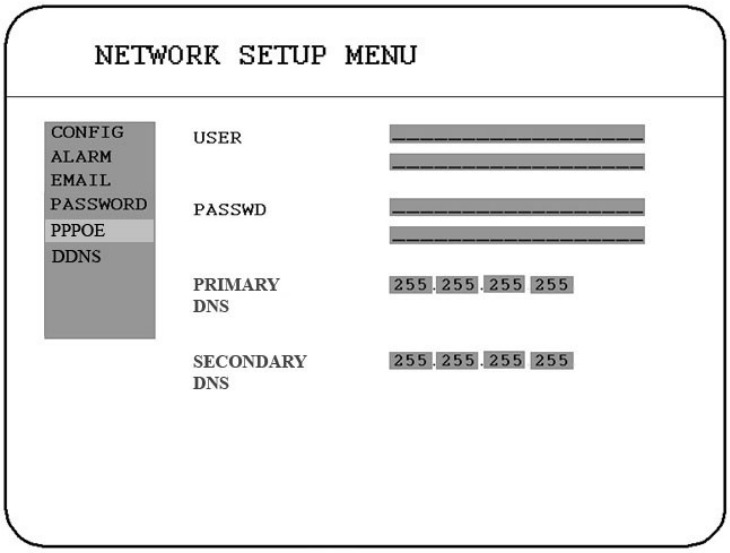


Diagram 3.14

- **USER:** Input the login user ID for your PPPOE Account for Authentication.
- **PASSWD:** Input the password for your PPPOE Account for Authentication.
- **PRIMARY DNS:** assign the primary dns for your PPPOE account.
- **SECONDARY DNS:** assign the secondary dns for your PPPOE account.

NOTE:

1) Please complete all settings in PPPoE Setup Menu, then return to CONFIG for changing IP CONFIG to PPPoE. Otherwise, PPPoE settings won't be valid.

2) If you select first PPPoE in IP CONFIG of CONFIG option, while PPPoE settings haven't been done yet, then PPPoE function won't work.

8 DDNS

In the **DDNS** of the **NETWORK SETUP MENU,** we define:

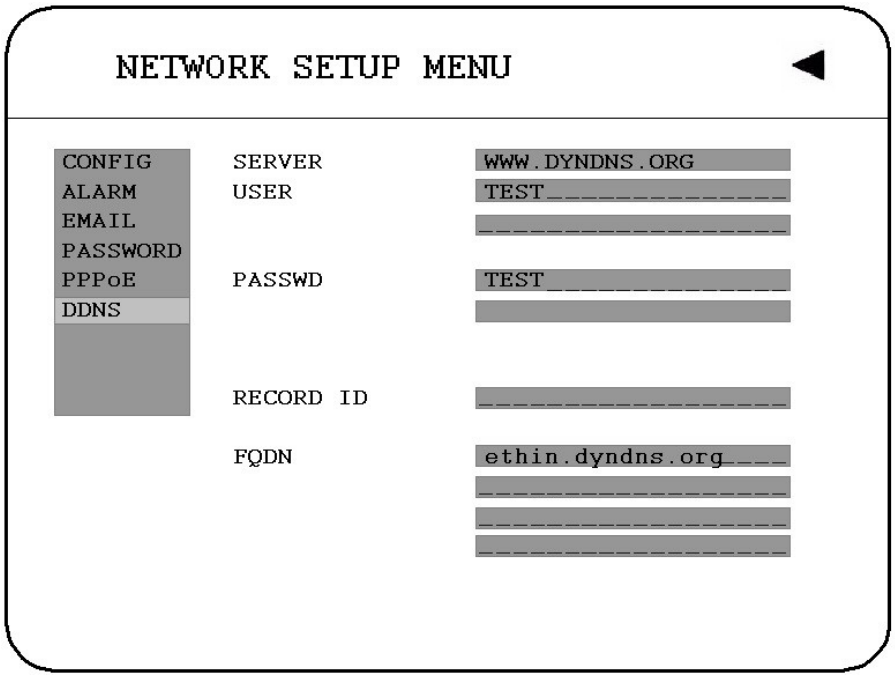


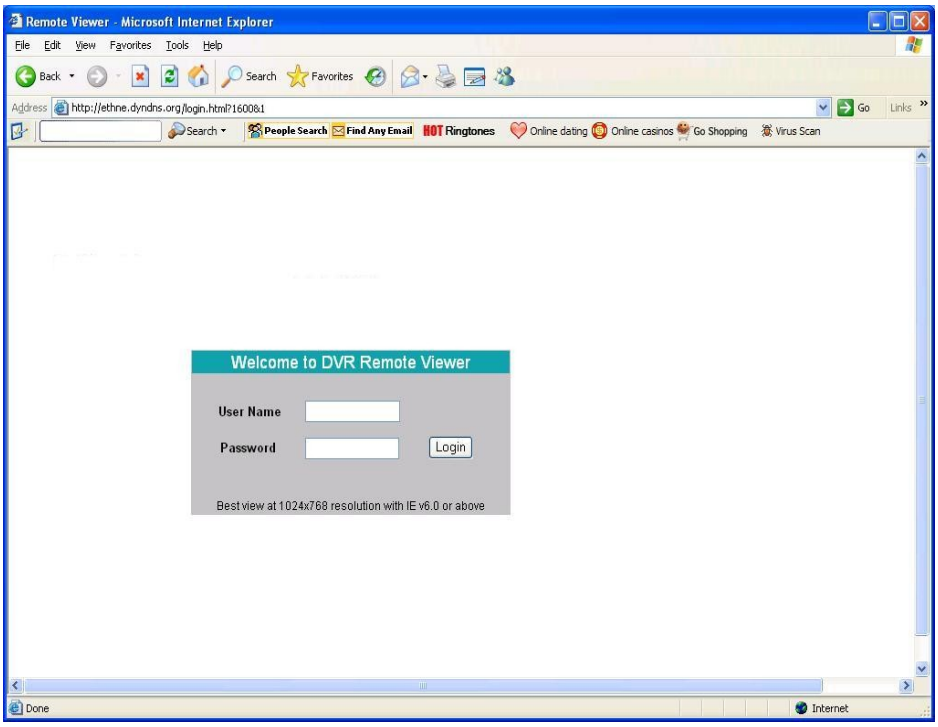
Diagram 3.15

For example: A user had applied for a DDNS account from
http://www.dyndns.org
User name: TEST
Password: TEST
Domain name ethin.dyndns.org

- **SERVER:** DDNS provider.

- **USER:** Input the login user ID for your DDNS Account for Authentication.
- **PASSWD:** Input the password for your DDNS Account for Authentication.
- **RECORD ID:** Record ID.
- **FQDN:** The domain name of this account

Users can connect to DVR that uses dynamic IP address by entering the domain name "ethne.dyndns.org" in IE browser. They don't have to know the IP address.



3.8 Schedule Setup Menu

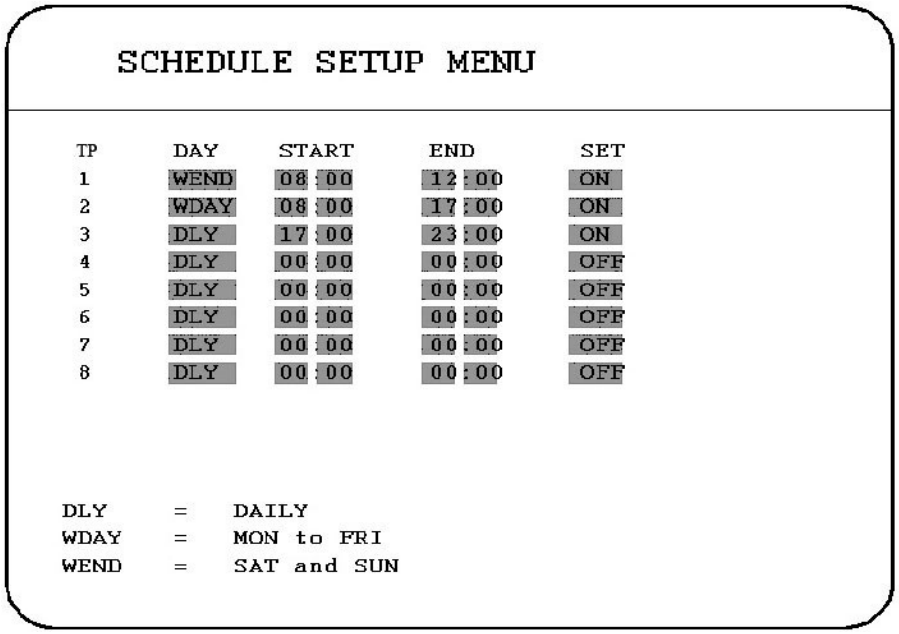

SCHEDULE SETUP MENU
TP DAY START END SET
1 WEND 08:00 12:00 ON
2 WDAY 08:00 17:00 ON
3 DLY 17:00 23:00 ON
4 DLY 00:00 00:00 OFF
5 DLY 00:00 00:00 OFF
6 DLY 00:00 00:00 OFF
7 DLY 00:00 00:00 OFF
8 DLY 00:00 00:00 OFF
DLY = DAILY
WDAY = MON to FRI
WEND = SAT and SUN

Diagram 3.16

Diagram 3.16 is a screen shot of the **SCHEDULE SETUP MENU**. In this menu you can set a unique timer any day of the week to start recording from a specified start time to an end time. This menu works together with the camera menu, you will notice 1~8 TP (time period), which is also seen in the camera menu. In the **SCHEDULE SETUP MENU** the following fields are defined as:

- **DAY:** This field represents the day of the week you wish to set the timer record for. Initially it is set to Sun as default. You may choose from Mon-Sun as well as DLY. If you wish to create a daily timer for every day of the week you may choose the DLY option. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

  MON (Monday), **TUE** (Tuesday), **WED** (Wednesday), **THU** (Thursday), **FRI** (Friday), **SAT** (Saturday), **SUN** (Sunday).

  WDAY: Weekday, from Monday to Friday.

  WEND: Weekend, Saturday and Sunday.

  DLY: Daily everyday of the week.

- **START:** This field is used to set the time you wish to start the timer recording. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

  Hour: 0 ~ 23 in 24 hour time format; **1~12** in 12 hour time format.

  Minutes: 00 ~ 59

  Note: To record All day long: 12:00am~12:00 am for 12-hour-format 00:00~00:00 for 24-hour-format

- **END:** This field is used to set the time you wish to stop the timer recording. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

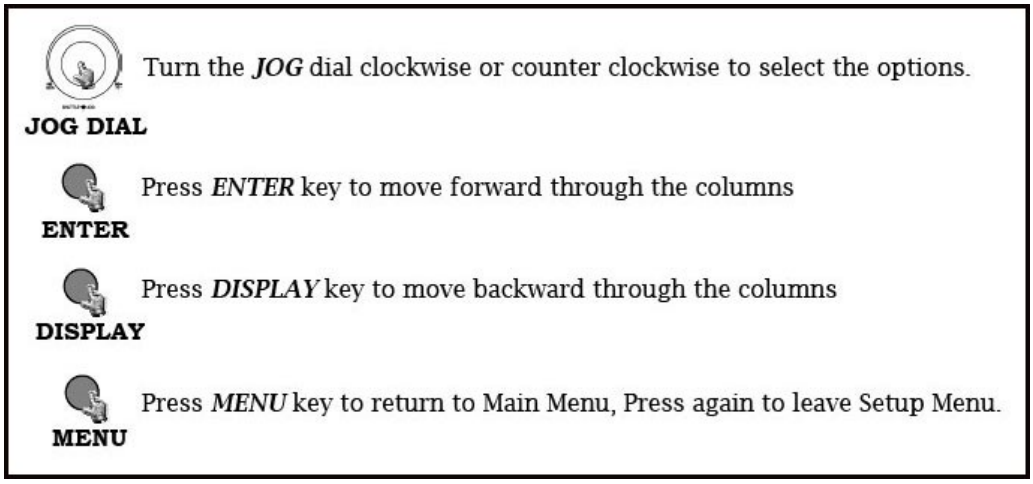
  Hour: 0 ~ 23 in 24 hour time format; **1~12** in 12 hour time format.

  Minutes: 00 ~ 59

- **SET:** This field is used to turn the timer recording on or off. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

  ON: Enable a scheduled record time period.

  OFF: Disable a scheduled record time period.


Turn the *JOG* dial clockwise or counter clockwise to select the options.
JOG DIAL
Press *ENTER* key to move forward through the columns
ENTER
Press *DISPLAY* key to move backward through the columns
DISPLAY
Press *MENU* key to return to Main Menu, Press again to leave Setup Menu.
MENU

3.9 Disk Setup Menu

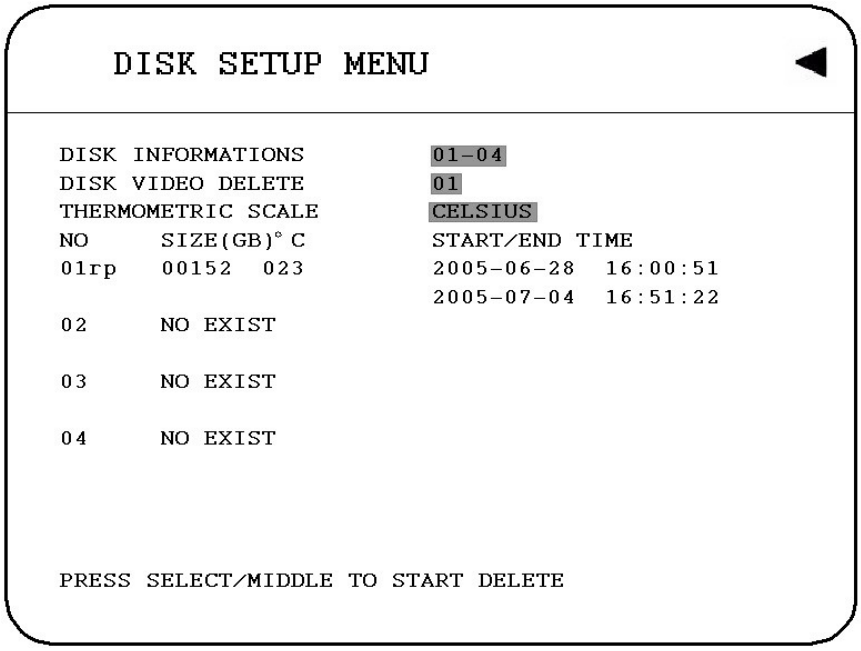


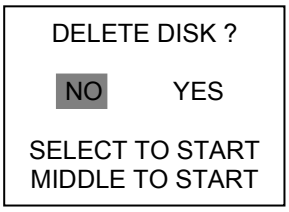
Diagram 3.17

Diagram 3.17 is a screen shot of the **DISK SETUP MENU**. This menu is for viewing Disk information and formatting the disks. For every configuration change or initial setup we recommend formatting the Hard Disk. In the **DISK SETUP MENU** the following fields are defined as follows:

- **DISK INFORMATION:** Select disks, there are 4 disks in each table. A maximum of 40 disks is available for this model.

- **DISK VIDEO DELETE (Disk Formatting):** Select the disk that you wish to delete, then press SELECT button from the front panel to start deletion.

Press **SELECT** to start delete.
A delete disk confirmation window will show up after pressing **SELECT** button or tilt wheel of the mouse.



Dial the Jog to move highlighter to **YES,** and then press **SELECT** button or tilt wheel of the mouse; a deleting indicator DELETE . . . . . will show up.

If you do not want to delete the disk after the delete disk confirmation window shows up, you can move highlighter to **NO**, and then press **SELECT** or tilt wheel of the mouse to quit.

An indicator of success SUCCESS . . . . . will show up when delete is completed.

Note: System will ask you to stop recording if you delete the disk when system is in the recording mode.

- **THERMOMETRIC SCALE:** Select **CELSIUS** or **FAHRENHEIT** for thermometric scale of the disk.

- **NO SIZE C or F Start/End Time:** Show the number of drives the size of each drive and the temperature as well as the days and times range stored on the hard drive.

3.10 Control Setup Menu

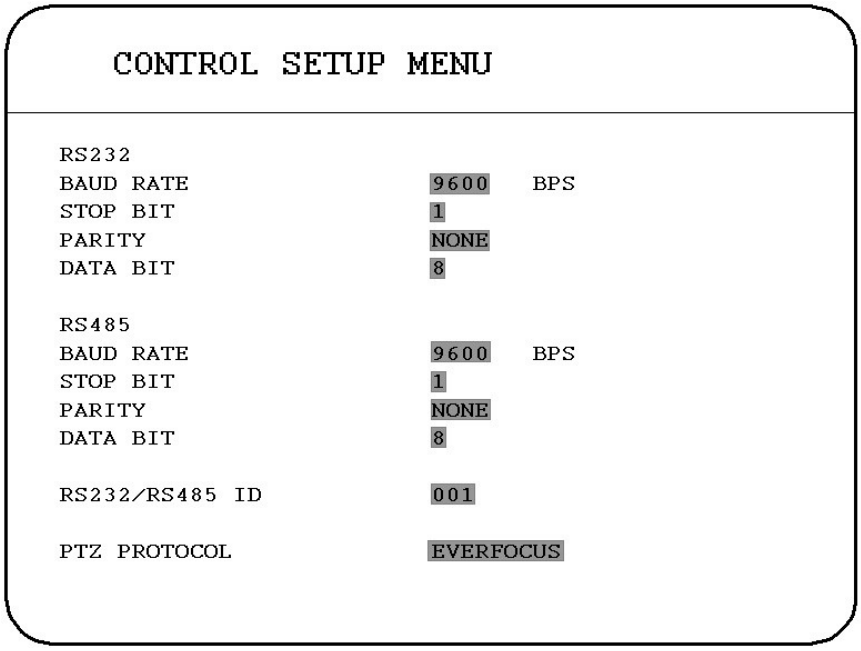


Diagram 3.18

Diagram 3.18 is a screen shot of the Control Setting Menu. This menu is for setting up a connection from the digital recorder to a computer to transfer instructions or information using the HyperTerminal program in Windows. In the Control Setting Menu the following fields are defined as follows:

RS232:

- **RS232 Baud Rate:** This field is to set the speed at which is used to transmit instruction or information through the RS232 port on the DVR. There are six different speeds, 1200 BPS, 2400 BPS, 4800 BPS, 9600 BPS, 19200 BPS, and 3840 BPS. The default setting from the factory is 9600 BPS. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **RS232 Stop Bit:** This field is to set the stop bit for the RS232 connection. There are two different stop bits, 1 or 2. The default in the DVR is set to 1. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **RS232 Parity:** This field is to select the parity level at which you will be connected. You can choose between None, Odd, or Even parity levels.

Default is set to none. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **RS232 Data Bit:** This field is the data bit at which you will be transferring. There are two settings for this option: 8 or 7. The default is set to 8. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

RS485:

- **RS485 Baud Rate:** This field is to set the speed at which is used to transmit instruction or information through the RS485 port on the DVR. There are six different speeds, 1200 BPS, 2400 BPS, 4800 BPS, 9600 BPS, 19200 BPS, and 3840 BPS. The default setting from the factory is 9600 BPS. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **RS485 Stop Bit:** This field is to set the stop bit for the RS485 connection. There are two different stop bits, 1 or 2. The default in the DVR is set to 1. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **RS485 Parity:** This field is to select the parity level at which you will be connected. You can choose between None, Odd, or Even parity levels. Default is set to none. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **RS485 Data Bit:** This field is the data bit at which you will be transferring. There are two settings for this option: 8 or 7. The default is set to 8. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **RS232/RS485 ID:** This entry is used to assign each device its own ID code if more than one unit is used through the RS232/RS485 connection. There are two ID codes for the DVR: 001-255. The default is set to 001. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **PTZ PROTOCOL:** Select PTZ protocol from **EVERFOCUS**, **PELCO-D, PELCO-P** and **ED2200/2250.**

3.11 Warning Setup Menu

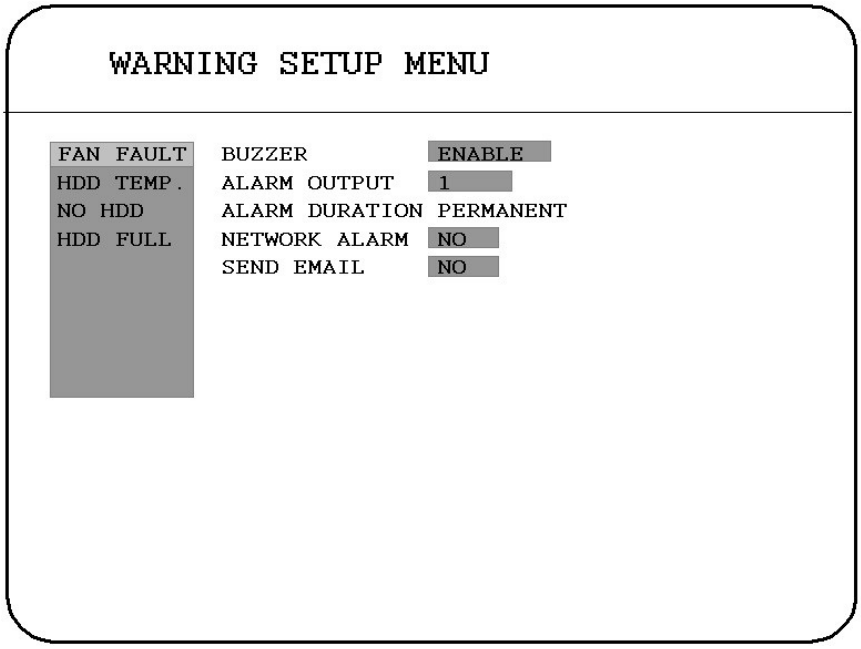


Diagram 3.19

Diagram 3.19 is a screen shot of the **Warning Setup Menu**. This menu is to set the warning system settings. If any critical errors were to arise, this portion of the menu would be for error handling. For example if you set the fan buzzer on and the fan wasn't able to turn on then you would here an alarm go off. In the **Warning Setup Menu** the following fields are defined as:

3 FAN FAULT

In **FAN FAULT**, we define:

- **BUZZER:** Fan buzzer. To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

  ENABLE: To enable a buzzer when the fan does not work.

  DISABLE: To disable fan buzzer.

- **ALARM OUTPUT:** This will transmit a signal to another device. The setting of alarms are **NONE = not activated** and **1 = one output signal transmitted.** To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **ALARM DURATION:** Permanent

- **NETWORK ALARM:**

  YES: To enable network alarm.

  NO: To disable network alarm.

- **SEND EMAIL:**

  YES: Send an email when the fan does not work.

  NO: Do not send an email when the fan does not work.

  The email address can be set in the **NETWORK SETUP MENU**.

4 HDD TEMP

In **HDD TEMP**, we define:

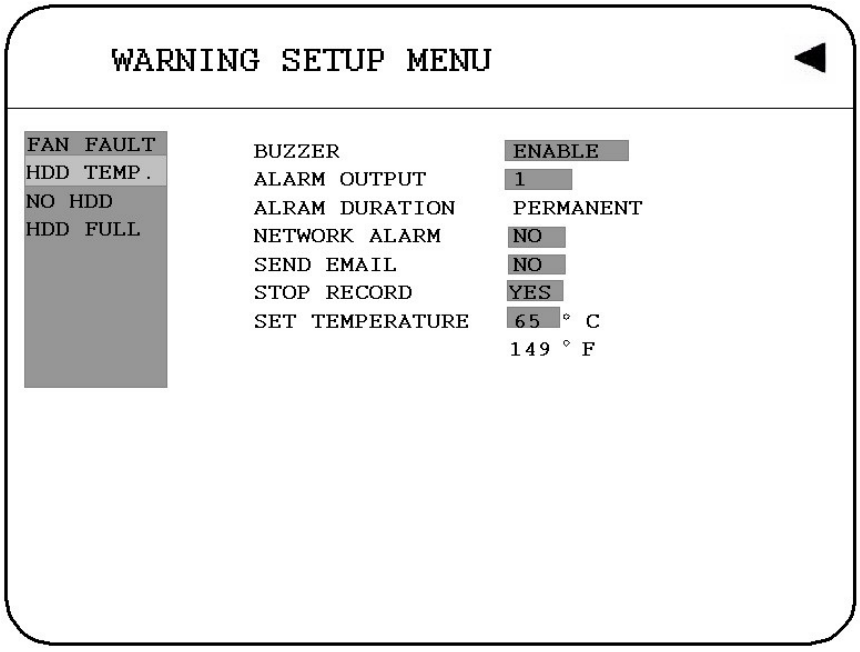


Diagram 3.20

- **BUZZER:** HDD TEMPERATURE buzzer.

  ENABLE: To enable a buzzer when HDD's temperature is higher than 70° C.

  DISABLE: To disable HDD TEMP. Buzzer.

- **ALARM OUTPUT:** The setting of alarms which are **NONE** and **1**, where **1** means the alarm is enabled.

- **ALARM DURATION:** Permanent

- **NETWORK ALARM:**

  YES: To enable network alarm.

  NO: To disable network alarm.

- **SEND EMAIL:**

  YES: Send an email when HDD's temperature is overheated.

  NO: Will not send an email when HDD's temperature is overheated.

  The email address can be set in the **NETWORK SETUP MENU**.

- **STOP RECORD:**

  YES: Stop recording when HDD's temperature is overheated.

  NO: Will not stop recording even when HDD's temperature is overheated.

- **SET TEMPERATURE:** It is possible to set temperature, when HDD's temperature is higher than the degree you set, then all other setting in HDD TEMP. will take effect (BUZZER, ALARM OUTPUT, ALARM DURATION, NETWORK ALARM, SEND EMAIL, STOP RECORD).

5 NO HDD

In **NO HDD**, we define:

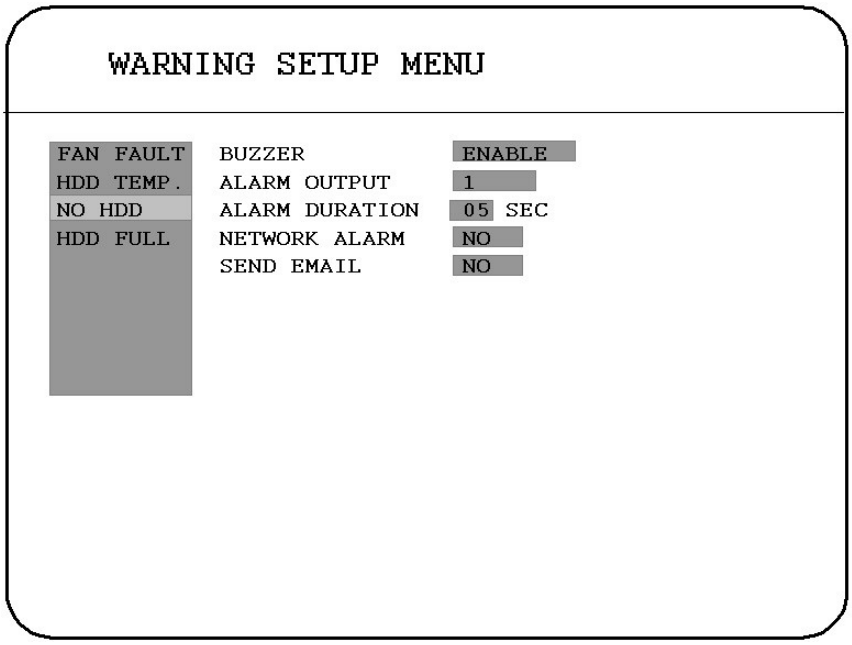


Diagram 3.21

- **BUZZER:** NO HDD buzzer.

  ENABLE: To enable a buzzer when no HDD has been found.

  DISABLE: To disable NO HDD buzzer.

- **ALARM OUTPUT:** This will transmit a signal to another device. The setting of alarms are **NONE = not activated** and **1 = one output signal transmitted.** To change this, simply use the Jog Dial on the DVR. Press the Enter key to make your selection.

- **ALARM DURATION:** Buzzer noise and event record duration of an alarm, from 1 sec to 99 seconds. The default value is 5 seconds.

- **NETWORK ALARM:**

  YES: To enable network alarm.

  NO: To disable network alarm.

- **SEND EMAIL:**

  YES: Send an email when no HDD has been found.

  NO: Will not send an email when no HDD has been found.

  The email address can be set in the **NETWORK SETUP MENU**.

6 HDD FULL

In **HDD FULL**, we define:

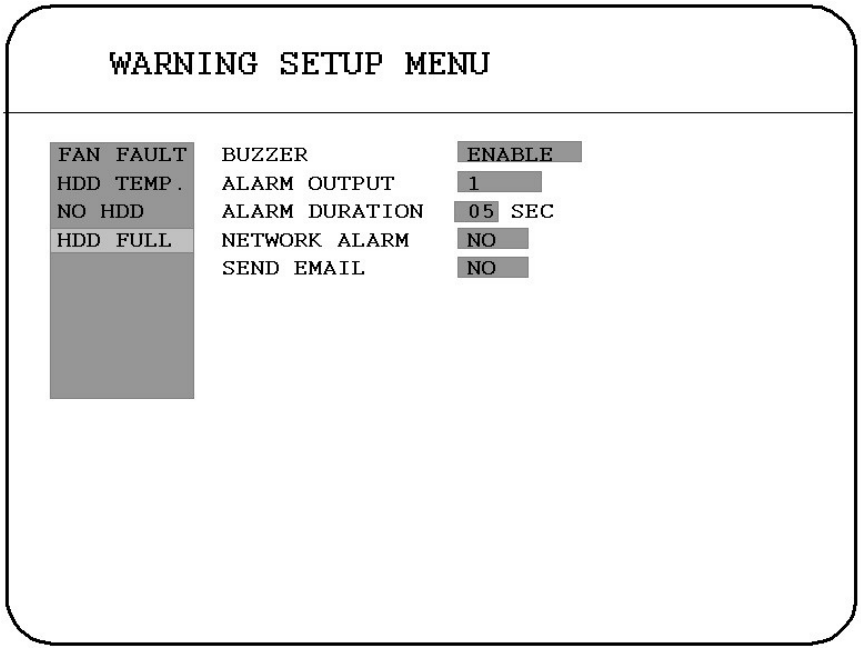


Diagram 3.22

- **BUZZER:** HDD FULL buzzer.

  ENABLE: To enable a buzzer when HDD is full.

  DISABLE: To disable HDD Full buzzer.

- **ALARM OUTPUT:** The setting of alarms which are **NONE** and **1**, where **1** means the alarm is enabled.

- **ALARM DURATION:** Buzzer noise and event record duration of an alarm, from 1 sec to 99 seconds. The default value is 5 seconds.

- **NETWORK ALARM:**

  YES: To enable network alarm.

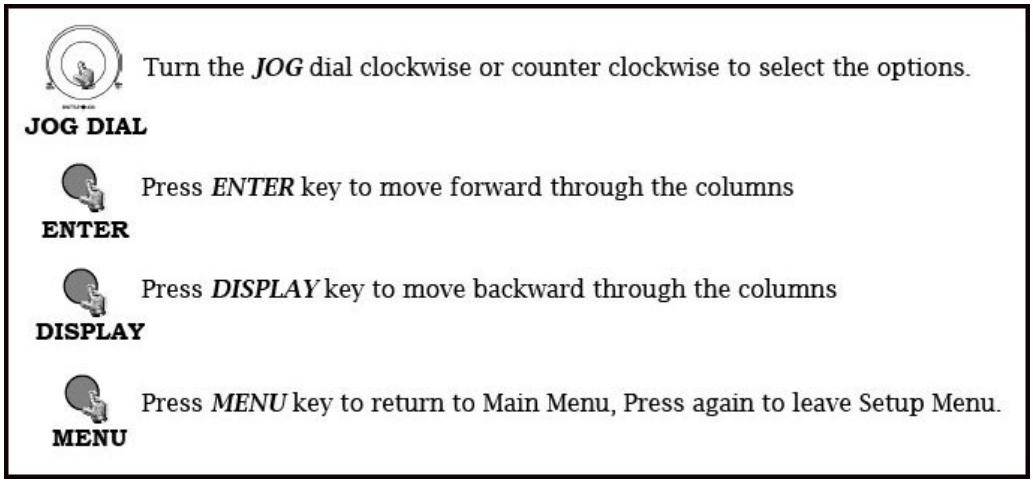
  NO: To disable network alarm.

- **SEND EMAIL:**

  YES: Send an email when no HDD has been found.

  NO: Will not send an email when no HDD has been found.

  The email address can be set in the **NETWORK SETUP MENU**.


Turn the *JOG* dial clockwise or counter clockwise to select the options.
JOG DIAL
Press *ENTER* key to move forward through the columns
ENTER
Press *DISPLAY* key to move backward through the columns
DISPLAY
Press *MENU* key to return to Main Menu, Press again to leave Setup Menu.
MENU

3.12 System Setup Menu

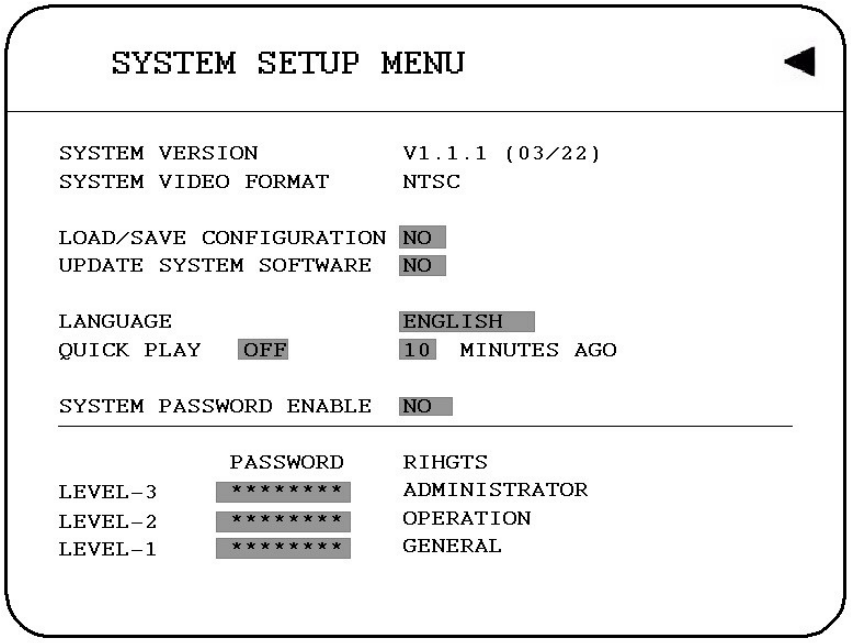


Diagram 3.23

Diagram 3.23 is a screen shot of the **SYSTEM SETUP MENU**. This menu is for setting up any additional options and restoring defaults to the digital recorder. In the **SYSTEM SETUP MENU** the following fields are defined as follows:

- **SYSTEM VERSION:** Current system firmware version.

- **SYSTEM VIDEO FORMAT:** NTSC or PAL. System can detect the input signal type automatically from camera 1 while system is booting up. Users do not need to set it up.

  Note: The signal type is detected by the camera 1, so camera 1 input has to be connected.

- **LOAD/SAVE CONFIGURATION:**

  YES: Turn the jog to enter the selection window, there are 4 options available: **CANCEL**, **DEFAULT**, **LOAD**, and **SAVE**. Select "CANCEL" for leaving the existing window. Select "DEFAULT" to load factory default values. Select "LOAD" to upload and save DVR configuration settings from USB/CF. Select "SAVE" to save existing

DVR configuration settings to USB/CF device. Press "**SELECT**" button from the front panel to confirm once the selection is made. Note that a USB/CF device has to be inserted properly before choosing "LOAD" or "SAVE" options. System will ask you to stop recording if you confirm to load default setting, to load saved setting or to save existing setting when the system is recording.

NO: Press "ENTER" to leave "LOAD/SAVE CONFIGURATION".

- **UPDATE SYSTEM SOFTWARE:** Turn the jog to enter the selection window.

  YES: Select **YES** to update system software from CF or USB by pressing **SELECT** to start.

  NO: Select **NO** for canceling updating by pressing **SELECT** to start.

  Note: 1. System will ask you to stop recording if you confirm to update when system is recording.

  2. USB or CF device must be inserted properly before updating system software.

  3. Do not remove USB or CF device when you are updating system software, it may cause crash to the machine.

- **CALL MON QUAD SEQ:** The dwell period of the call monitor quad display in the sequence mode.

  Note: Please refer to CALL setting for an advanced call monitor setting.

- **LANGUAGE:** System language can be set in different languages. The available language depends on the country or area. Subject to change without further notice. Please consult your sales representative for the most update information.

- **QUICK PLAY:** Allows the user to press the play button and playback video from the time indicated from this field (0 ~ 59 Min).

  ON: Enable quick play. The video played time is the immediate play time from now.

OFF: Disable quick play. Videos will start to be played from the end point of the last play.

TIME: Quick play time, from 1 ~ 59 min. The default value is 10 minutes.

Note: The recommendatory quick play time is 10 minutes. The video cannot be played due to the video file is not stored to HDD yet if you set a quick play time too short.

- **SYSTEM PASSWORD ENABLE:**

  YES: Select **YES** to enable the password function.

  NO: Select **NO** to disable the password function.

- **PASSWORD and RIGHTS:** The login passwords here are used to operate and set up this machine locally not from the remote tcp/ip connection. The different login passwords indicate the different level of users, and no login name is necessary. The digit will appear instead of a " * " sign when the cursor is moved on it. Turn the Jog to change the digit on which the cursor is located of the password, and press **ENTER/DISPLAY** to go next/last digit. The available digits are **1, 2, 3, 4, 5, 6, 7,** and **8.** There are three system access levels and one none access level. The below chart on the next page shows the rights of each level.

  - ***Note: If the passwords of different levels are set the same, you will enter a higher level when you login. For example, you will login to the ADMINISTRATOR level if the password of ADMINISTRATOR and GENERAL levels are the same.***

- ***Note: If you enable the system password levels and are logged in any level higher then Level 1 with no action having taken place after 20 seconds the DVR will automatically log you back into Level 1.***

- ***Note: After upgrading system software, please do the following actions before recording:***

  1. Load System Default in **System Setup Menu**.
  2. Delete disk in **Disk Setup Menu.**

User Level and Right				
LEVEL / RIGHT	LEVEL-3 ADMINISTRATOR	LEVEL-2 OPERATOR	LEVEL-1 GENERAL	NONE ACCESS —
DISPLAY	OK	OK	OK	OK
MODE	OK	OK	OK	OK
ZOOM	OK	OK	OK	OK
SELECT	OK	OK	OK	NO
SEQ	OK	OK	OK	NO
CALL	OK	OK	NO	NO
MENU	OK	NO	NO	NO
COPY	OK	NO	NO	NO
SEARCH	OK	NO	NO	NO
PLAY	OK	NO	NO	NO
STOP	OK	NO	NO	NO
REC	OK	NO	NO	NO
PAUSE	OK	NO	NO	NO

Note: The above table will be updated if there is any change.

Turn the ***JOG*** dial clockwise or counter clockwise to select the options.

JOG DIAL

Press ***ENTER*** key to move forward through the columns

ENTER

Press ***DISPLAY*** key to move backward through the columns

DISPLAY

Press ***MENU*** key to return to Main Menu, Press again to leave Setup Menu.

MENU

Chapter

Recording Overview

4

Before continuing with the Recording Overview please be sure to have reviewed DVR Menu Setup (Chapter 3) specifically the camera & schedule. You are now ready to begin setting up the machine for recording. This chapter will show you how to setup the recorder for three basic types of recording: Instant recording, scheduled recording, and event recording. **Instant recording (N)** is simple as it sounds its instantaneous, basically manually pressing the record button for recording, much like pressing the record button on a VCR. **Scheduled recording (1~8)** is based upon a set time period of when to begin & end the recording. **Event recording** would consist of an alarm, vloss or motion having taken place to trigger the DVR to record on that event.

4.1 Instant (N) Recording Setup

- **Press the Record key to start recording immediately.**

REC

When **REC** is pressed, the pictures being monitored will be recorded in the HDD.

The recording rate, recording quality and recording speed can be set in the **CAMERA SETUP MENU**. To set the target camera for a particular recording speed /IPS (when using the instant record method). Apply the changes to the last Time Period (TP) row labeled **N**

A "RECORD" sign appears in the record status bar.

STOP

Press **STOP** key to stop instant recording.

The **STOP** key can be activated only in instant recording mode, but not available in the schedule or event recording mode.

When the HDD is full, the machine will stop recording automatically or overwrite from the beginning of the HDD. It depends on the setting in the **RECORD SETUP MENU**.

Note: 1. If STOP key is pressed while machine is recording or playing video, the playing function will be disabled first. If STOP key is pressed twice the DVR will come out of record mode completely.

2. We suggest not to remove the Hot-Swappable Drive while the machine is recording or in playback. Please stop any type of recording or playback first before removing the Hot-Swappable Drive.

4 Schedule Recording Setup

- Set up the **DAY**, **START** time, **END** time and then enable the **SET** in the **SCHEDULE SETUP MENU.**

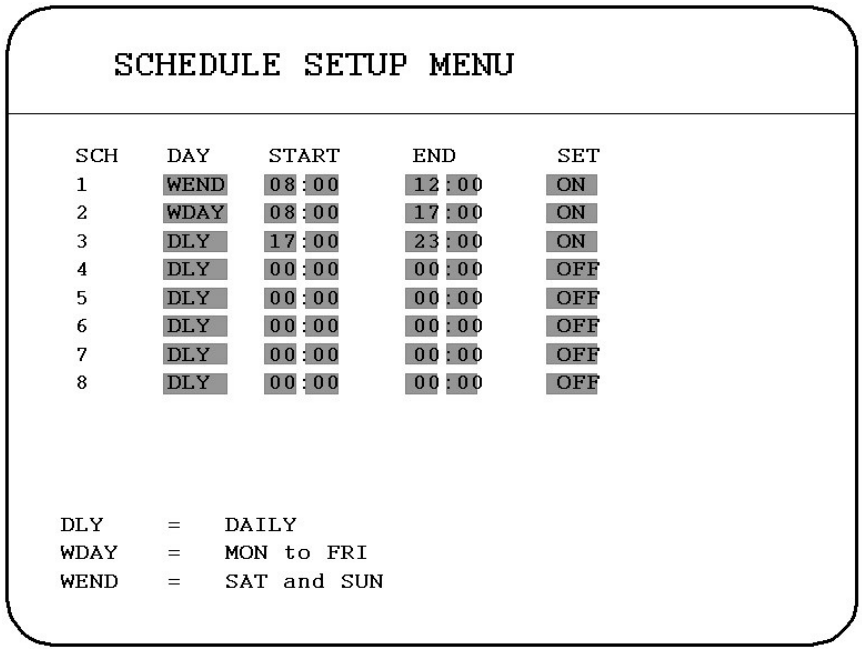

SCHEDULE SETUP MENU
SCH DAY START END SET
1 WEND 08:00 12:00 ON
2 WDAY 08:00 17:00 ON
3 DLY 17:00 23:00 ON
4 DLY 00:00 00:00 OFF
5 DLY 00:00 00:00 OFF
6 DLY 00:00 00:00 OFF
7 DLY 00:00 00:00 OFF
8 DLY 00:00 00:00 OFF
DLY = DAILY
WDAY = MON to FRI
WEND = SAT and SUN

Diagram 4.1

- Please refer to **SCHEDULE SETUP MENU,** to see setting procedure and more details (Chapter 3.8).

5 Event Recording Setup

- We will define two event recording types **ALARM** and **MOTION**. After the event recording is enabled, the **EDR1640/1620/920** will start an event recording when an event occurs. For instance when motion activity is detected by the DVR it will begin recording at the specific IPS set under event column. Or when an alarm is detected by the DVR it will begin recording at the specific IPS set under event column.

- In order to start an event recording, you will **NEED** to perform the following:

  1. Enable the event in each event (alarm or motion menu) setting first. For example (motion), enable Camera 2 in the **MOTION SETUP MENU** (shown as below). You can enable multiple alarm or motion triggers.

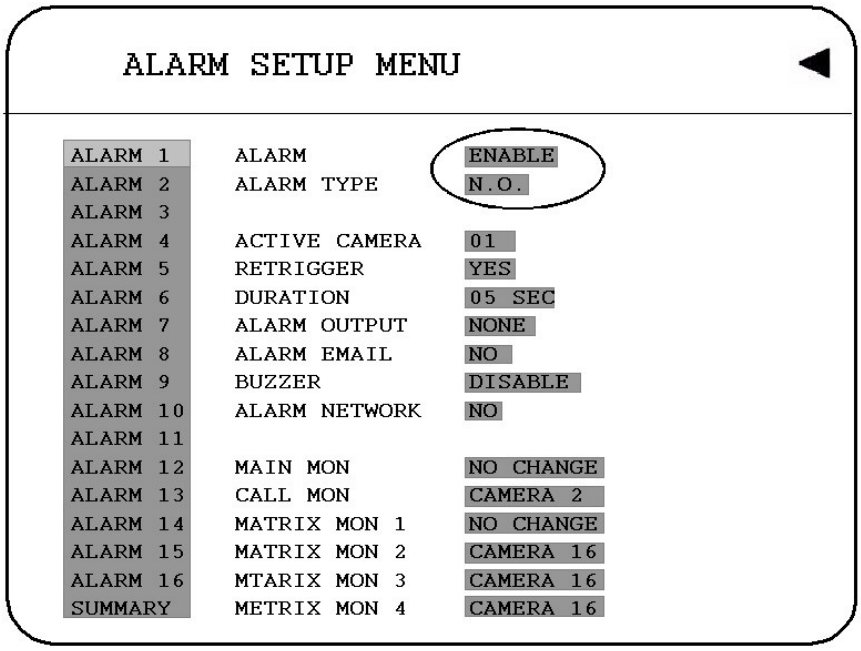
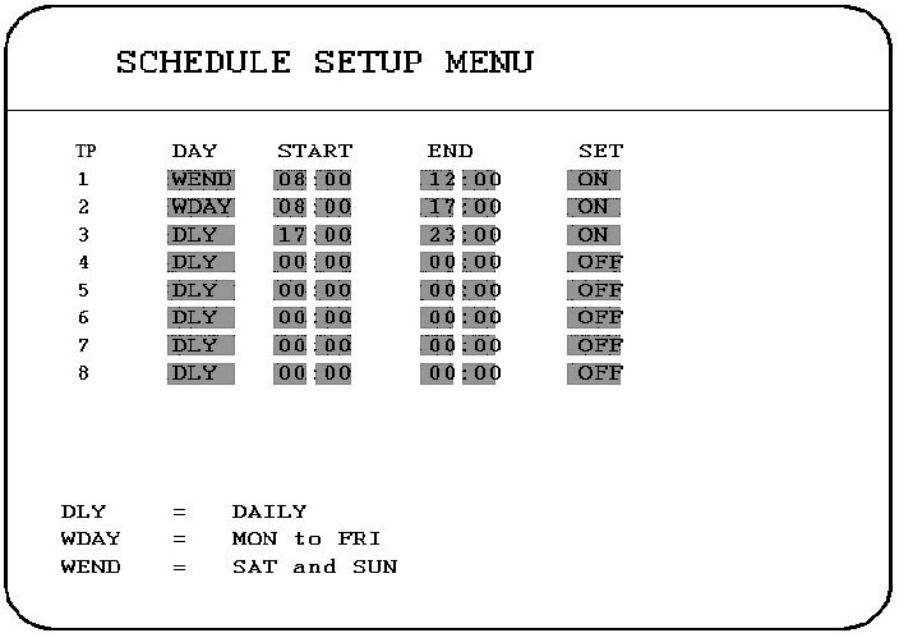
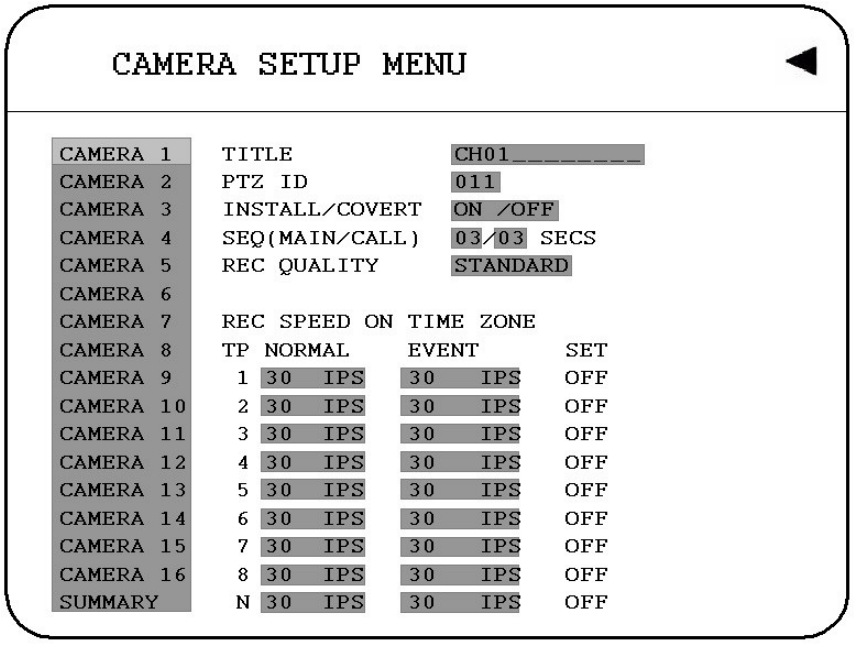


Diagram 4.2

  2. After enabling an event, you need to set a time period (TP) in the **SCHEDULE SETUP MENU.** An event recording must be set in a scheduled time period (TP). You can refer to the **SCHEDULE SETUP MENU** for time period configurations (Chapter 3.8).


SCHEDULE SETUP MENU
TP DAY START END SET
1 WEND 08:00 12:00 ON
2 WDAY 08:00 17:00 ON
3 DLY 17:00 23:00 ON
4 DLY 00:00 00:00 OFF
5 DLY 00:00 00:00 OFF
6 DLY 00:00 00:00 OFF
7 DLY 00:00 00:00 OFF
8 DLY 00:00 00:00 OFF
DLY = DAILY
WDAY = MON to FRI
WEND = SAT and SUN

3. When the event and schedule are set, enter the **CAMERA SETUP MENU** to set the event recording speed (IPS) of the camera in the time period (TP) section.



Note: ***Set the time period (TP) from 00:00 to 00:00 daily in the SCHEDULE SETUP MENU, and set the normal record speed as***

Chapter

5

0 IPS in the CAMERA SETUP MENU if you only want to record only on a events activity recording (motion or alarm).

- **EDR1640/1620/920** provides a record function which is triggered by external signal via the 19th pin of the **ALARM INPUT / OUTPUT** port. When the record input signal is pulled low constantly, **EDR810/410** will start to record. The system will stop recording when the record input signal is not pulled low.

  Note: Please check APPENDIX C to see other available alarm input/output functions.

6 ALARM INPUT RECORDING (Input trigger)

- **EDR1640/1620/920** provides a record function which is triggered by external signal via the 19th pin of the ALARM.

- **INPUT / OUTPUT port:** When the record input signal is pulled low constantly, EDR1640/1620/920 will start to record. The system will stop recording when the record input signal is not pulled low.

  Note: Please check APPENDIX to see other available alarm input/output functions.

Playback Overview

Before continuing please be sure to have reviewed DVR Menu Setup (Chapter 3). You are now ready to begin setting up the DVR for playback. This chapter will show you how to setup the recorder for basic playback.

5.1 Basic Playback

(1) Playback

PLAY

Press the **PLAY** key to start playing back the stored image/audio. The video start time depends on the quick play setting in the **SYSTEM SETUP MENU**. The DVR is duplex, which means you can record and playback the same time.

REV.PLAY

Press the **REV. PLAY** key and the DVR will rewind while displaying video in reverse.

(2) STOP

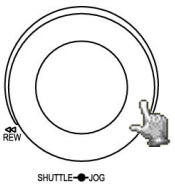
STOP

(3) Fast Forward/Reverse Playback

PLAY

Press the **PLAY** key to begin playing back process.

Turn the **Shuttle** dial clockwise, to begin fast forward playback.



The speed will be shown on the status bar of the bottom screen.

>> 2, 4, 6, 8, 16, 32X, and press **ENTER** at the same time to hold the play speed. The enter button will lock the X speed that is desired or you can manually hold the shuttle dial in the position.

Press **PLAY** again to return normal play speed.

Turn the **Shuttle** dial counterclockwise, to start fast reverse playback.

The speed will be shown on the status bar of the bottom screen.

<< 2, 4, 6, 8, 16, 32X, and press **ENTER** at the same time to hold the play speed. The **ENTER** button will lock the X speed that is desired or you can manually hold the shuttle dial in the position.

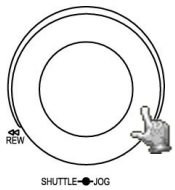
Press **PLAY** again to return normal play speed.

(4) Slow Forward/Reverse Playback

PAUSE

During playback mode, press **PAUSE** key to freeze the playing back picture.

Turn the **Shuttle** dial clockwise, to start slow forward playback.



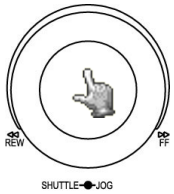
The speed will show on the status bar of the bottom screen.

>> 1/2, 1/4, 1/8, 1/16, 1/32, and press **ENTER** at the same time to hold the play speed. The enter button will lock the X speed that is desired or you can manually hold the shuttle dial in the position.

(5) Image advance Forward/Reverse

PAUSE

Press **PAUSE** key to freeze the picture.



Turn the **Jog** dial clockwise to advance the still video image by image.

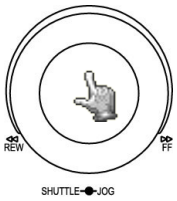
Turn the **Jog** dial counterclockwise to rewind the still video image by image.

The field feed speed will increase if the **Jog** dial is turned quickly.

5.2 Search Playback

SEARCH

Press the **SEARCH** key to enter the **SEARCH MENU**.



In the **SEARCH MENU**,
Dial the **Jog** clockwise or counterclockwise to change subentry values.
Press the **ENTER** key to go next subentry in search menu setting, and press the **DISPLAY** key to go last subentry in search menu setting.
Press **MENU** to exit.
Press **SELECT** to start search.

(1) TIME / DATE Search Playback

The following window will show up after pressing **SEARCH** key. Select **TIME / DATE** and then select the time you want to search. Press SE**LECT, t**he system will start to search.

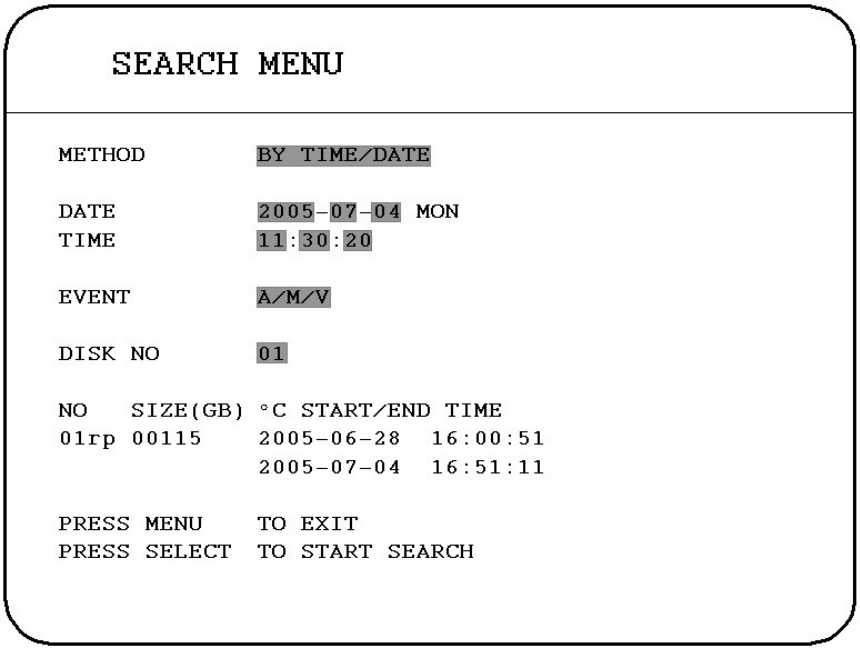


Diagram 5.1

An **EVENT** search does not give you the option to change the □**Y TIME / DATE**□**s**earch method. Size of total data file, HDD temperature, start recording time and end recording time of the disk show in the search screen.

Note: If there is no video stored in the date/time specified, then the image will keep at the end of the last play, and the display time on the status bar shows □?:??□

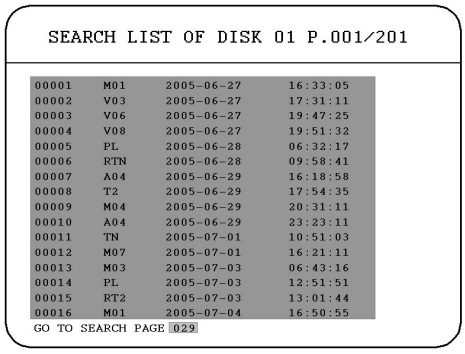
(2) EVENT Search Playback

You can change different event search methods if you select □**EVENT**□ **in**stead of □**Y TIME / DATE**□ **7** events which are ALAR**M, MOTION, VLOSS, A/M, A/V, M/V and** A/M**/V can** be selected.
The indications of events show as below.

EVENT	**Indication**
ALARM	Search ALARM events
MOTION	Search MOTION events
VLOSS	Search video loss events

A / M	Search ALARM and MOTION events
A / V	Search ALARM and video loss events
M / V	Search MOTION and video loss events
A / M / V	Search all events (ALARM, MOTION and video loss)

DATE and **TIME** are not able to be changed in the **EVENT** search method. The



The event types and number show on the second column of the search list. Where
A: an alarm event;
M: a motion event;
V: a video loss event;
TN: an instant record event;
Tn: a schedule record event, n=1~8;
PL: a power loss event;
RTN: a power return event in an instant record;
RTn: a power return event in a schedule record, n=1~8.
PH (Physical Head): which is the beginning point of HDD space;
LH (Logical Head): Beginning of recording date & time right after HDD has been overwritten.

The number after letter indicates the number of even type. The last two columns are the date and time of event.

Chapter

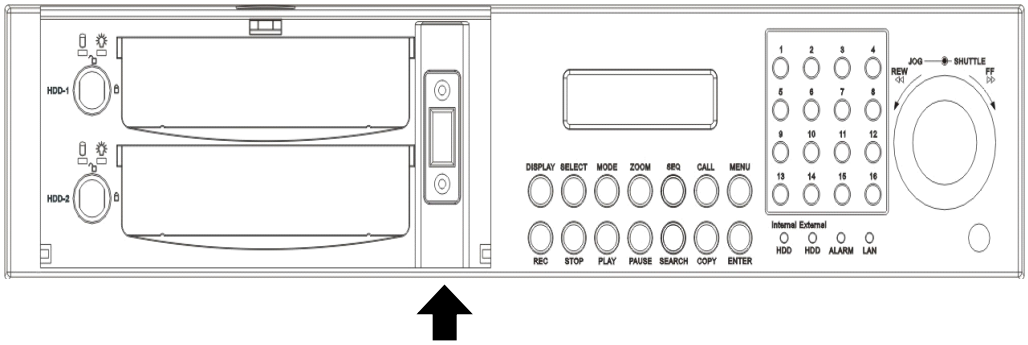
6

Copying Video

Before continuing please be sure to have reviewed the preceding chapters. You are now ready to copy an image or video from the DVR. This chapter will show you how to copy a still image or movie from the recorder.

- Insert the USB pocket driver into the USB slot on the front panel of the DVR. When inserting the USB, make sure the direction of insertion is correct to copy.

USB SLOT:



- Digital Video Recorder allows users to select the camera for copying image (video) to movie file or copying EDR Viewer, which is the image (video) player. The camera title will be displaying at the top of the screen.

COPY

Press **COPY** key and then the copy menu appears.

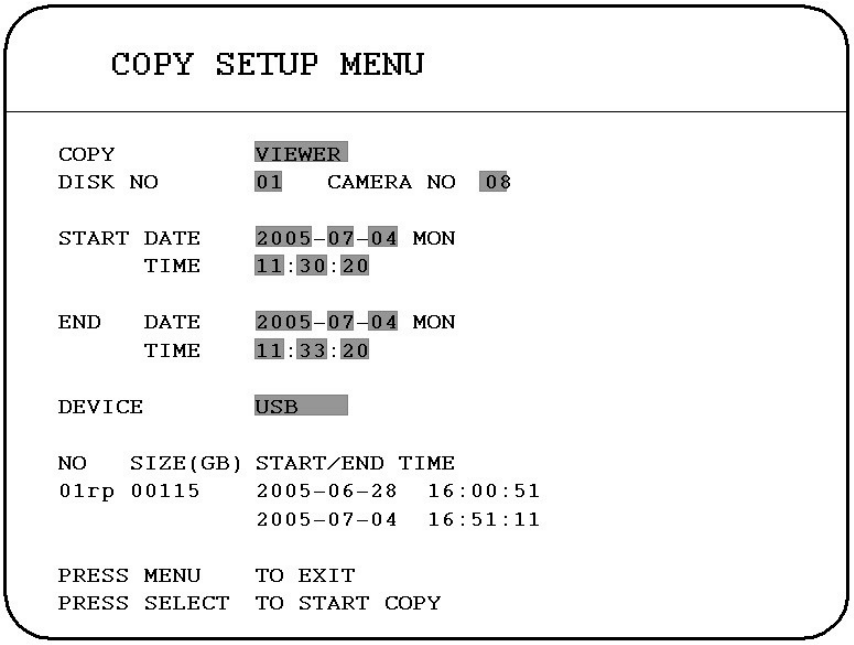


Diagram 6.1

In the **COPY MENU**, we define:

COPY: Select **Image (video)** for copying images to movie file.

Select **Viewer** for copying EDR viewer player.

DISK NO: Disk number. It is fixed as "01" in this series.

CAMERA NO: Camera channel number. You can select the video of camera you would like to copy.

START DATE & TIME: The start time of video you want to copy.

END DATE & TIME: The end time of video you want to copy.

DEVICE: The media (USB) you want to store the file.

Press **SELECT** to copy after setting up everything.

There are 2 steps to copy image in **Playback** mode:

1. During playing back, press **COPY** button. (You will have a default bookmark spanning 5 minutes)

2. Now Stop playback by pressing the **STOP** button and it will bookmark the starting copy point and end copy point. For example, Start copy point

will be 10-10-2005 10:00:00 and end copy point will be 10-10-2005 10:05:00. Press **COPY** button to enter the copy menu. In the Copy menu chose image under the copy option. Then, press **SELECT** button to copy, you will see the **START TIME** has been changed to the "Bookmark time". The end time is preset to 5 minutes later. You can change it to another value if desired.

6.1 Viewing a Copied File

- First Step is to download the viewer from your DVR. Insert a USB memory card into the DVR's appropriate slot. Press **COPY** button to enter the copy menu. In the Copy menu chose viewer under the copy option. Then, press **SELECT** button to copy the viewer to the USB or Flash Drive.

- To play the video or image you have stored on the USB memory card is to take the USB memory card and into the USB port of your computer.

- Open up "My Computer" in windows and you will notice a new drive has been added to the computer. This is the USB memory card. To view the files simply click on the drive to open it and you will see the files you archived as well as the viewer you just downloaded.

- Open the EDRViewer.exe for loading the archived EDR MPEG Files (.arv)

Chapter

7

Note: If you are unable to play "AVI" file downloaded from "EDRViewer", please go to the following URL: http://www.divx.com/divx/play/download/index.php for downloading DivXPlay.exe. This will enable you to play "AVI" file successfully.

Call Overview

This chapter will try to give you details on how to setup the **CALL MENU** on the DVR. Press the **CALL** key and the **CALL MENU** will pop up as below.

Chapter

8

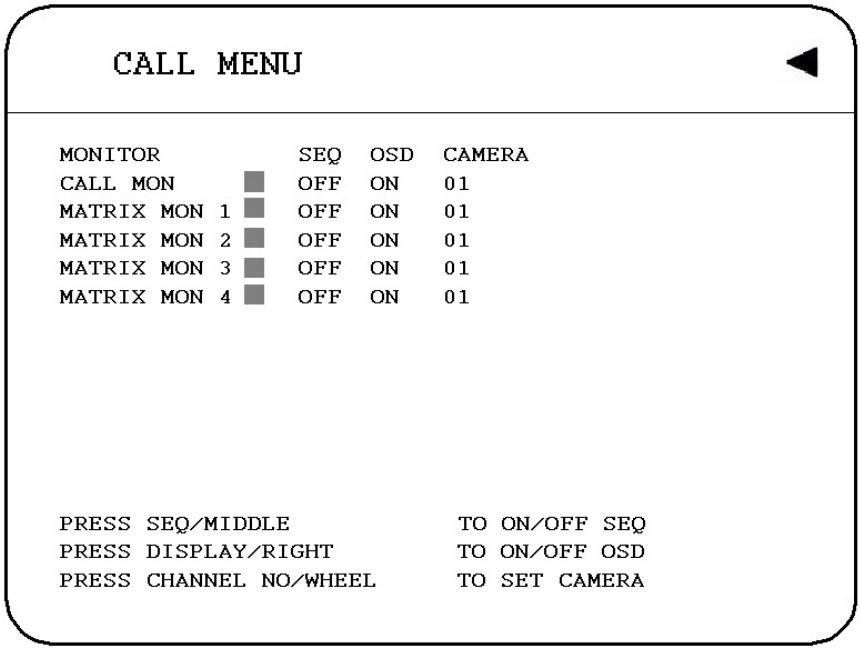

CALL MENU
MONITOR SEQ OSD CAMERA
CALL MON OFF ON 01
MATRIX MON 1 OFF ON 01
MATRIX MON 2 OFF ON 01
MATRIX MON 3 OFF ON 01
MATRIX MON 4 OFF ON 01
PRESS SEQ/MIDDLE TO ON/OFF SEQ
PRESS DISPLAY/RIGHT TO ON/OFF OSD
PRESS CHANNEL NO/WHEEL TO SET CAMERA

Diagram 7.1

In **CALL MENU,** we define:

(1) SEQ: Sequence display on the call monitor. Press **SEQ** to switch **"ON"** or **"OFF"** of the sequence status.

(2) OSD: Channel name display on the call monitor. Press **DISPLAY** to switch **"ON"** or **"OFF"** of the **OSD** status.

(3) CAMERA: The display camera in the call monitor.

(4) CALL/MATRIX (1~4): To display the call monitor and Matrix (1~4) monitors. Use the **ENTER** button to move between monitors. This will enable you to make selection of **SEQ**, **OSD** and **CAMERA**.

Screen Display Setting & Mode

In a full screen display, press **SELECT** key to pop up the display adjustment window as below:

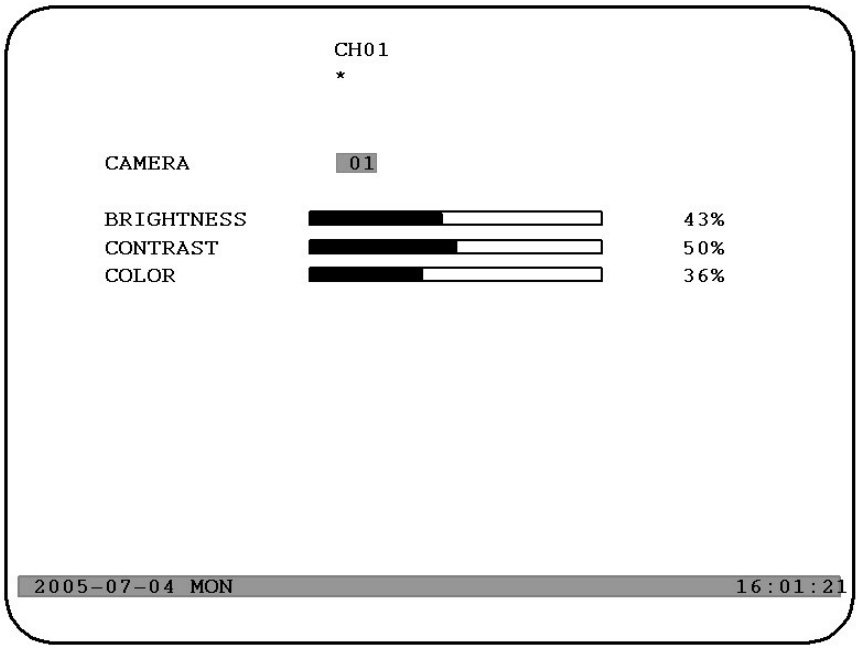


Diagram 8.1

In the screen display setting menu, we define:

(1) CAMERA: The display setting of the current camera.

(2) BRIGHTNESS: The bright percentage of the current camera; from 0% to 100%.

(3) CONTRAST: The contrast percentage of the current camera; from 0% to 100%.

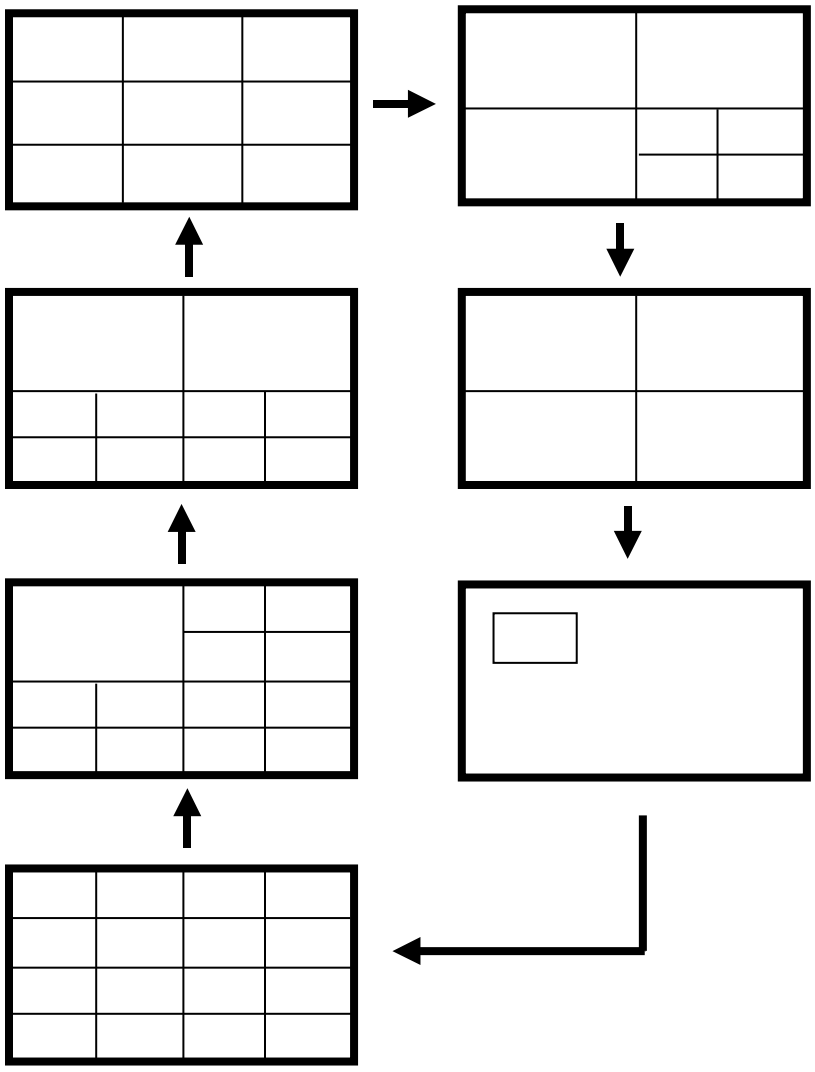
(4) COLOR: The color percentage of the current camera; from 0% to 100%.

The selected item will show in red color bar. Use **Jog** to increase or decrease the value. Press **ENTER** to confirm the setting value and move to next item. After finished setting, press **SELECT** or **MENU** key to save and exit the dialog. Total of 8 channels are adjustable.

Pressing **ZOOM** button from front panel will enable you to do screen adjustment. Dial the **Jog** to move leftward and rightward.

8.1 Mode Button

Press **MODE** to switch 4, 7, 9, 10, 13, 16 and PIP (picture in picture) displays for Live and Playback mode.



Chapter

9

Firmware Upgrade

This chapter will try to give you a detailed instruction on how to upgrade the DVR. This will be a helpful in completing the upgrading process.

- Please go to ftp://208.50.31.200 and go to DVR Firmware upgrade folder. Then click on the folder that represents you're the model number of your DVR.
- Copy the .ETW to your USB memory from your computer
- Insert the USB in to_the USB slot on the front panel of the DVR. When inserting the USB, make sure the direction of insertion is correct.
- If you are in Record mode hit the stop button to stop recording.
- If the menu pops up when you press the stop button. This usually means you have either the DVR is in Timer record or Motion record. Log into the DVR menu by pressing the Menu button. Go to Either Timer Setting Menu or Motion Record Setting menu and turn them off.
- Once you have stopped any type of recording on the DVR you are ready to upgrade.
- Press the menu button and use the Jog Dial to go to System menu.
- Using the enter button to navigate in the menu. Highlight System Upgrade turn NO to YES (use jog wheel to select).
- Highlight YES again and press enter (use jog wheel to select).
- Next to System Upgrade you will notice it say "1/3"
- Once you have read success log out of the menu by pressing the menu button twice. Then turn the power on the DVR off and turn it back on.

Chapter 10

Networking Overview

This chapter will try to give you a detailed instruction on how to network the DVR. Before we begin the process of networking your digital recorder we should have a working knowledge of what a network is and how it works. This will be a helpful in completing the networking process.

10.1 Introduction to TCP/IP

TCP/IP is the suite of protocols used by the Internet and most LANs (Local Area Networks) throughout the world. In TCP/IP, every host (computer or other communications device) that is connected to the network has a unique IP address. By doing this you are giving your device a unique address similar to the address of your house. An IP address is composed of four octets (numbers in the range of 0 to 255) separated by decimal points. The IP address is used to uniquely identify a host or computer on the LAN. For example, a computer with the hostname Workstation could have an IP address of 192.168.1.127.

You should avoid giving two or more computers the same IP address by using the range of IP addresses that are reserved for private, local area networks; this range of IP addresses usually begins with the octets 192.168. The first three octets of an IP address should be the same for all computers in the local area network. For example, if a total of 253 computers exist in a single LAN, the IP addresses could be assigned starting with 192.168.1.*x*, where *x* represents a number in the range of 2 to 254.

10.2 Subnet Masks

Each host in a LAN has a subnet mask. The *subnet mask* is an octet that uses the number 255 to represent the network address portion of the IP address and a zero to identify the host portion of the address. For example, the subnet mask 255.255.255.0 is used by each host to determine which LAN or class it belongs to. The zero at the end of the subnet mask represents a unique host within that network. Basically the subnet mask represents the city you live in for your home address, but in this case you are stating the network you belong too.

10.3 Gateway Address

Each host in a LAN has a gateway. A gateway address is composed of four octets (numbers in the range of 0 to 255) separated by decimal points. The

gateway address is used to uniquely identify a host or computer on the LAN which assigns the IP addresses to your network. For example, a Linksys router has an IP address of 192.168.1.1. If you were using this type of router within your LAN, then your gateway would be the IP address of the Linksys router. The reason this would be your gateway is because the Linksys is assigning the IP addresses for your network therefore the Linksys would be the gateway to your network. This is similar to the zip code of your address.

10.4 Virtual Ports

A **port number** represents an endpoint or "channel" for network communications. Port numbers allow different applications on the same computer to utilize network resources without interfering with each other. Port numbers most commonly appear in network programming, particularly socket programming. Sometimes, though, port numbers are made visible to the casual user. For example, some Web sites a person visits on the Internet use a URL like the following:

http://www.everfocus.com:8100/

In this example, the number 8100 refers to the port number used by the Web browser to connect to the Web server. Normally, a Web site uses port number 80 and this number need not be included with the URL (although it can be). In IP networking, port numbers can theoretically range from 0 to 65535. Most popular network applications, though, use port numbers at the low end of the range (such as 80 for HTTP). This could be similar to the front door of your house. Without the door to the house being open you could not enter it. This is the same case with ports on a network. If the ports for a specific IP address are not open then you could not gain access to that IP address or what it is addressing.

Note: The term port also refers to several other aspects of network technology. A port can refer to a physical connection point for peripheral devices such as serial, parallel, and USB ports. The term port also refers to certain Ethernet connection points, such as those on a hub, switch, or router.

10.5 Pre-Installation

Before we begin with the installation we must ask ourselves a few questions in order to figure out where to begin with networking our DVR's.

Do you have Hi-speed Internet? _____

There are many types of high speed Internet available. Three commonly used ones are T1, Cable, and DSL (in order of speed).

- ***Note: Everfocus suggests having a minimum upload speed of 256KBps. This can be addressed by the Internet Service Provider.***

Who is your Internet provider? _____

- Please confirm that your internet service provider that our upload speed is at least 256KBps.

What type of modem/router do you have? _____
Modem/router model name/ #

The modem/router was either installed by your Internet service provider or purchased by you to establish a connection to the Internet. A router is installed to allow multiple computers to access the Internet through the same external IP address. It in turn assigns different internal IP addresses to local computers for this specific purpose.

Do you have a static IP address? _____

A Static IP address means you use the same IP address every time you log on to the Internet. With a static IP address, other Internet users always know the identity of your computer and can easily connect with it. That way, you can host a website, email server, or other type of server connection. Everfocus suggest using a static IP address. If your Internet provider does not offer a static IP address you have the option to use a dynamic IP address. This will be explained in more detail later on in the chapter.

Do you have a dynamic IP address? _____

A Dynamic IP address means your IP address changes each time you make a connection to the Internet. We recommend asking your Internet service provider for a Static IP address. If this is not a possibility, you may purchase a router (we suggest a Linksys or D-link router) which supports DDNS. DDNS is a Dynamic Domain Name Server, a service that provides a central (public) database where DNS information can be stored and retrieved. It allows those using a dynamic IP address to be registered centrally so users can connect to it by name.

What type of DVR are you installing? _____

Everfocus EDR series: EDR 410, 810, 920, 1620, 1640, or 1680
Everfocus EDSR series: EDSR 110, 400H, 400M, 400, 900, or 1600

10.6 What Type of Network Connection do you have?

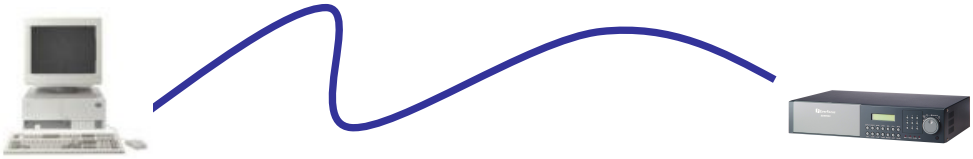
Everfocus DVR's can operate using three distinct types of networking connections.

1. Simple One to One Connection: A simple one to one connection is the most simple network connection. Basically it is a connection between a Computer and Another Computer or in this case a DVR using a cross-over cable. (See page on how to install this type of connection)

2. Direct High Speed Modem Connection: A direct high speed modem connection is a network connection from the modem directly to a computer or in this case the DVR. (See page on how to install this type of connection)

3. Router or LAN Connection – A local area network connection either requires a router or a pre-existing LAN connection. Typically this type of connection is the most commonly used application. A router allows multiple computers and DVR's to access each other as well as the Internet. It assigns different internal IP addresses to the computers.

10.7 Simple One to One Connection



Cat 5
Cross-over-cable

Crossover Ethernet Cable Pin outs:

The Diagram below shows the pin configurations for a cross over cable.

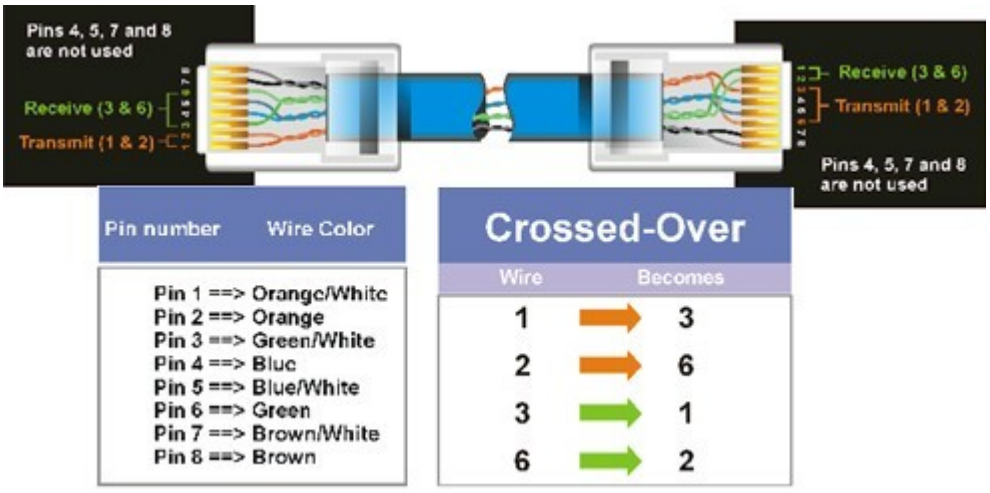


Diagram 10.1

Connection Procedure:

- The First step is to purchase or make a cross over cable. We recommend purchasing one if you have never made a cross over cable. Please remember you can not use a straight through network cable for this application

- Once you have a cross over cable plug one end into the LAN port on the back of the recorder and the other into the network card on the back of the computer.

- Now Log into the Everfocus DVR menu and using the jog dial from the previous chapter go to the Network Setting Menu. (See page 28 for more instructions)

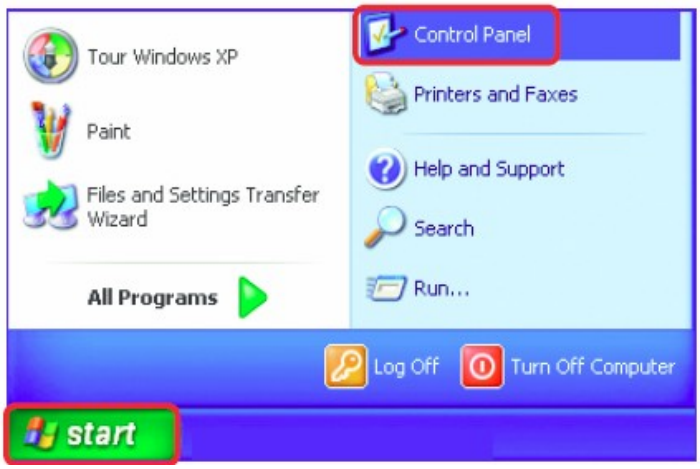
- Assign an IP address of 192.168.001.003 to the DVR, a Subnet mask of 255.255.255.000, and a default gateway of 192.168.001.001.

- The next step is to get the computer onto the same network to do this you will need administrator access to your windows machine.

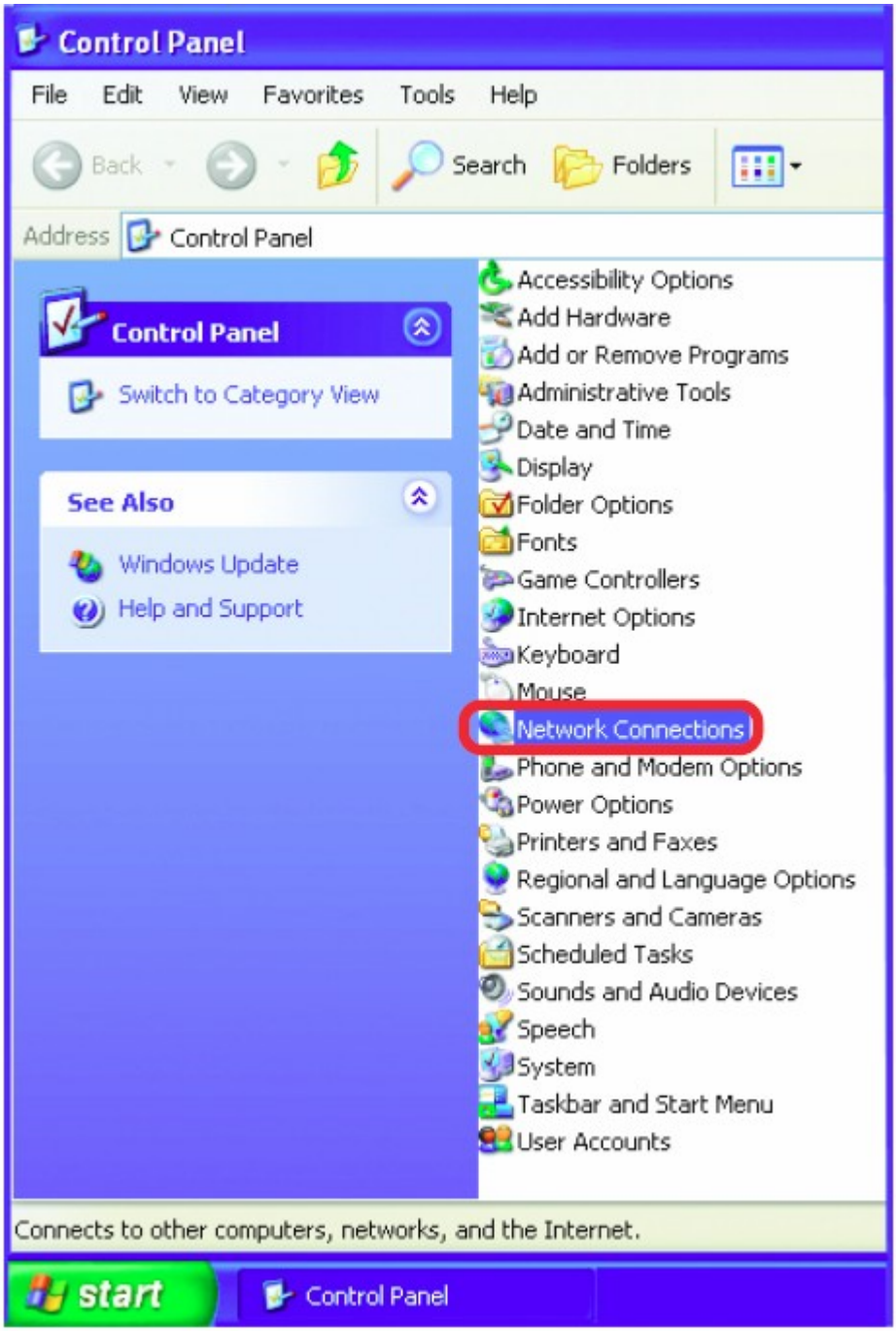
- To assign a static IP address in windows 2000/XP.

- Go to **Start**

- Double-click on **Control Panel**

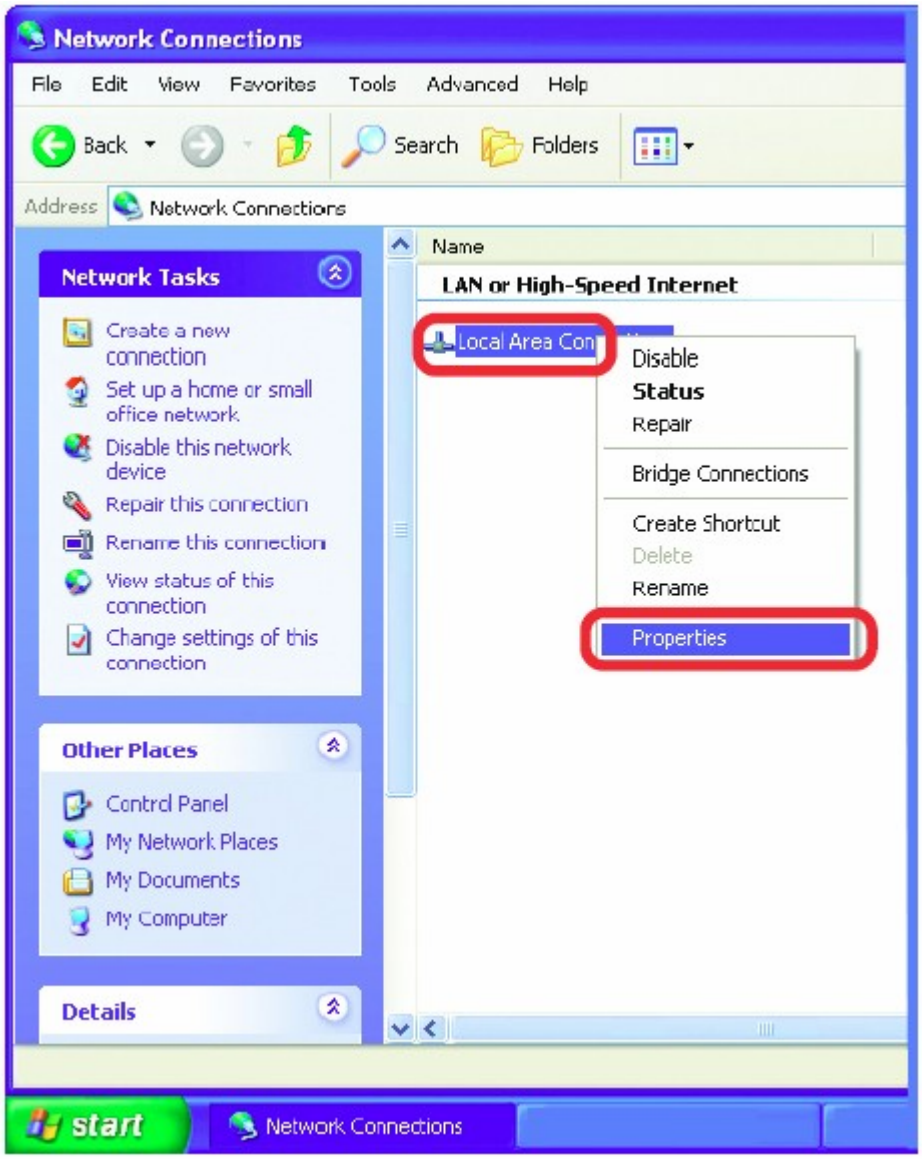


- Double-click on **Network Connections**

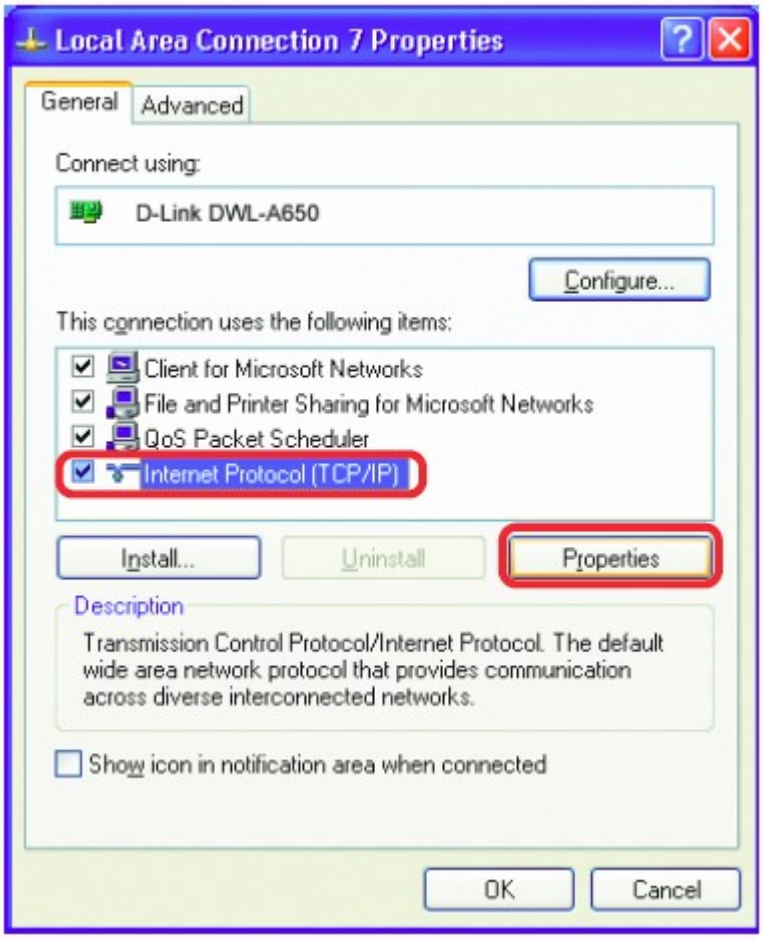

Control Panel
File Edit View Favorites Tools Help
Back
Search
Folders
Address
Control Panel
Control Panel
Switch to Category View
See Also
Windows Update
Help and Support
Accessibility Options
Add Hardware
Add or Remove Programs
Administrative Tools
Date and Time
Display
Folder Options
Fonts
Game Controllers
Internet Options
Keyboard
Mouse
Network Connections
Phone and Modem Options
Power Options
Printers and Faxes
Regional and Language Options
Scanners and Cameras
Scheduled Tasks
Sounds and Audio Devices
Speech
System
Taskbar and Start Menu
User Accounts
Connects to other computers, networks, and the Internet.
start
Control Panel

- Right-click on **Local Area Connections**

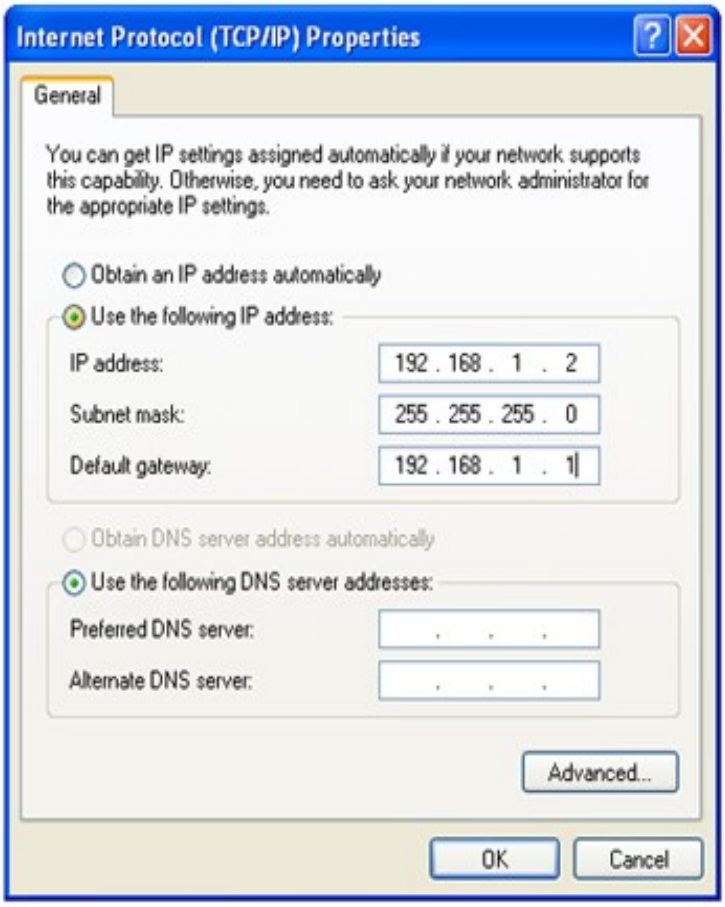
- Double-click on **Properties**



- Click on **Internet Protocol (TCP/IP)**
- Click **Properties**



- Input your **IP address and subnet mask.** (The IP Addresses on your network must be within the same range.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 1 . 2
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 1 . 1
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

- Once you have reached this point click ok and restart both the computer and the digital recorder.

- To access the DVR from the computer simply open Internet Explorer and in the address bar type:

  http://192.168.1.3

ActiveX

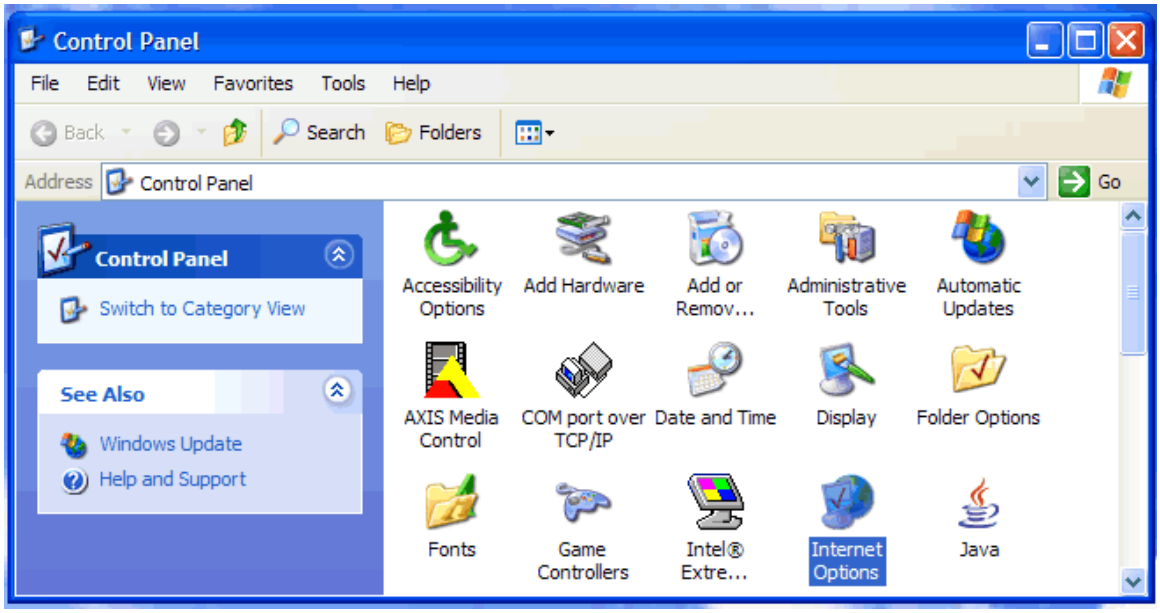
ActiveX is a component from Microsoft that enables interactive content for a web site. With ActiveX, Web pages are able to include multimedia, interactive programs, and sophisticated applications that give a user the same experience as a high-quality CD-ROM title. ActiveX provides the programming necessary to run these "active" Web sites.

When accessing the webpage, it installs the activeX control that allows you to run the application needed for that webpage.

Such is the case for the DVR.. The EDR series of recorders require that ActiveX be enabled on Internet Explorer in order to fully view the cameras. If the ActiveX options on Internet Explorer are not on, then the cameras will not be displayed.

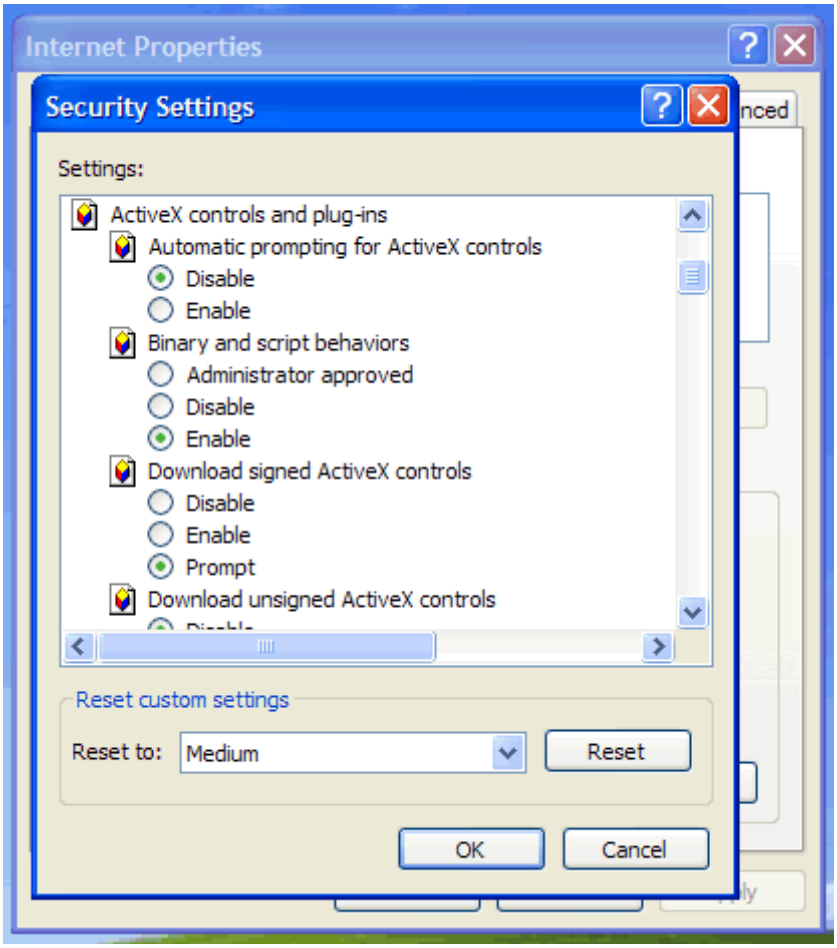
Enabling ActiveX

- Open the Control Panel from the Start menu of the computer
- Click on Internet Options



- On Internet Options click on the SECURITY tab.
- On the Security tab, click on CUSTOM LEVEL at the bottom.

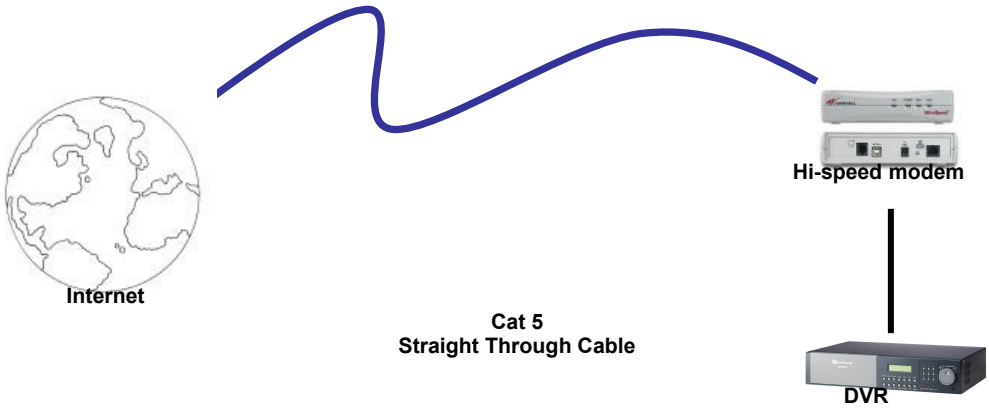
- Once in CUSTOM LEVEL, Scroll down to ACTIVEX CONTROLS AND PLUG-INS. Set the Following Settings:



- Download Signed ActiveX controls: Prompt
- Run ActiveX controls and plug-ins: Enable
- Script ActiveX controls Marked safe for scripting:: Enable

- If you are still not able to load the active X control, change RESET CUSTOM SETTINGS to low and then click on RESET.
- Once Enabled, Click on OK on the Security Settings window. Then click on apply on the Internet Options window and finally click OK.

10.8 Direct High Speed Modem Connection



Straight Through Ethernet Cable Pin outs:

The Diagram below shows the pin configurations for a straight cable.

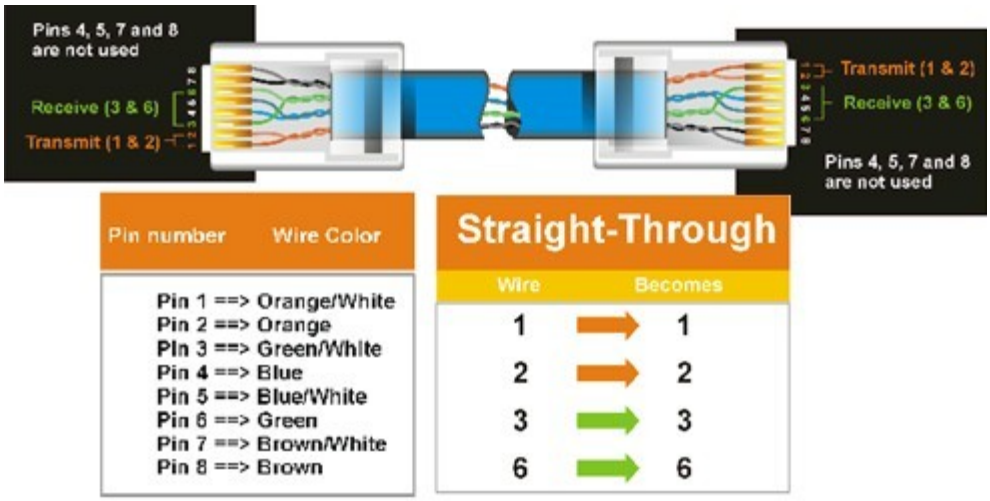


Diagram 10.2

Connection Procedure:

- The First step is to purchase or make a straight through cable. We recommend purchasing one if you have never made a straight through cable. Please remember you can not use a cross over network cable for this application

- Once you have a straight through cable plug one end into the LAN port on the back of the recorder and the other into the high speed modem.

- Now Log into the Everfocus DVR menu and using the jog dial from the previous chapter go to the Network Setting Menu. (See page 28 for more instructions)

- Assign the Static IP address which you obtained from the internet service provider to the DVR, the Subnet mask from the internet service provider to the DVR, and the default gateway of the internet service provider.

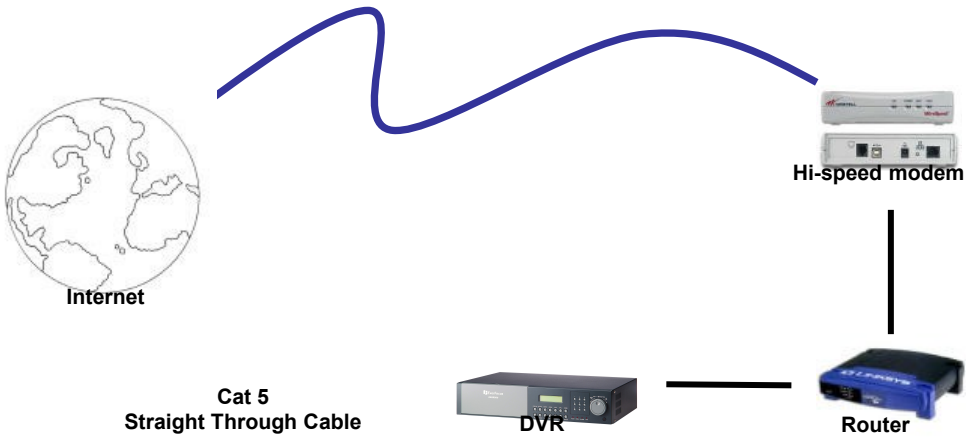
  - ***Note: If you have a dynamic IP address this type of connection can work directly through the DVR directly. The DVR can be used as a DHCP client. Therefore, it can receive a dynamic IP address.***

- Once you have reached this point click ok and restart both the computer and the digital recorder.

- To access the DVR from a computer simply open Internet Explorer and in the address bar type:

  http:// and the IP address of your internet service provider.

10.9 Router or LAN Connection



Straight Through Ethernet Cable Pin outs:

The Diagram below shows the pin configurations for a straight cable.

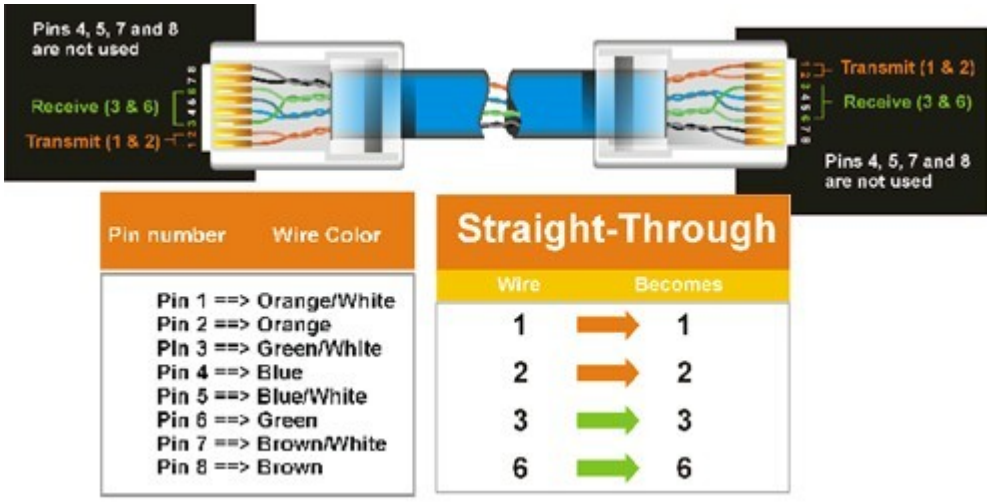


Diagram 10.3

Connection Procedure:

- The First step is to purchase or make a straight through cable. We recommend purchasing one if you have never made a straight through cable. Please remember you can not use a cross over network cable for this application

- Once you have a straight through cable plug one end into the LAN port on the back of the recorder and the other into the router.

- Now Log into the Everfocus DVR menu and using the jog dial from the previous chapter go to the Network Setting Menu. (See page 28 for more instructions)

- If you have a Linksys Router:

  - Assign an IP address of 192.168.001.050 to the DVR, a Subnet mask of 255.255.255.000, and a default gateway of 192.168.001.001.

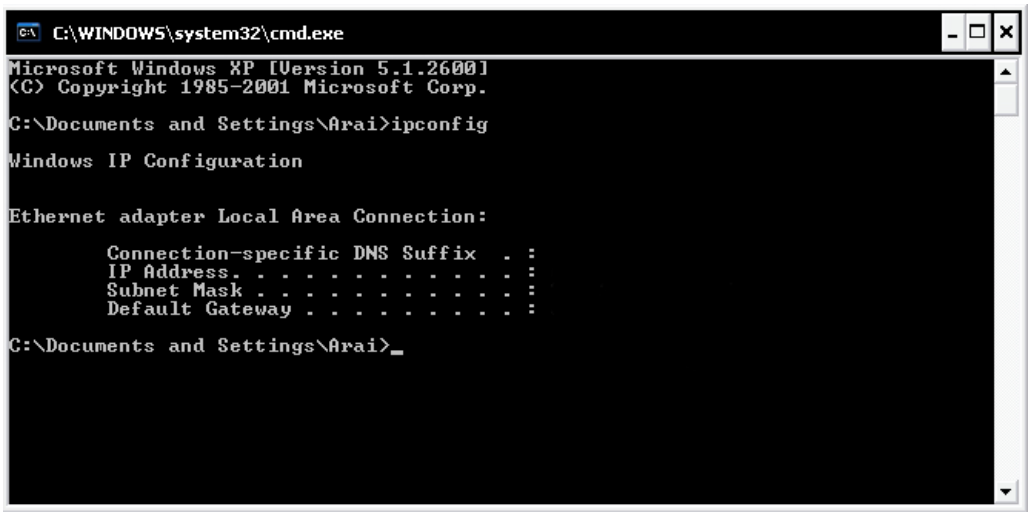
  If you have a D-Link Router:

  - Assign an IP address of 192.168.000.050 to the DVR, a Subnet mask of 255.255.255.000, and a default gateway of 192.168.000.001.

  If you have a pre-existing LAN:

  - Go to a Computer on the pre-existing network and do the following:
    - Go to Start, then Run and type cmd and click on OK.

  - Then hit enter, type ipconfig and press enter this will give you the information you will need.


C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Arai>ipconfig
Windows IP Configuration
Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix . :
IP Address. . . . . :
Subnet Mask . . . . . :
Default Gateway . . . . . :
C:\Documents and Settings\Arai>_

  - Use the prior step to assign an IP address. For example, if you got the IP address from the computer of 192.168.002.101. Assign the DVR's IP address as 192.168.002.050. Now Copy the subnet mask and default gateway information you got from the prior step off the computer to the DVR.

- ***Note: Make sure the modem is in bridge mode. If your Internet Service Provider is BellSouth you may have a modem/router. BellSouth provides a Westell modem that includes a built-in router. You will need to disable the router functionality.***

- The next step is to open ports within your router. Open virtual ports in the router (Log into the router using a PC)

  - EDR Ports to open: 80, 1600,1601,1602,1603, 37260, 37261, 37262, 37263

  - ***Note: If your Internet service provider blocks port 80 you must use a different port to access the DVR through the DVR's Network Menu Setup.***

  - ***Note: If you wish to have multiple users log into the DVR please open a range for the control and data ports on your router. For example if you would only like 4 clients to connect to the DVR open 1600-1603 and 37260 ~ 37263***

- If you have a Dynamic IP address and have open the ports simply go to Chapter 13 to Configure DDNS.

- Once you have reached this point and you have restarted the digital recorder.

- To access the DVR from a computer simply open Internet Explorer and in the address bar type:

  http:// and the IP address of your internet service provider.

  - ***Note: If your Internet service provider blocks port 80 you may use a different port to access the DVR through the DVR's Network Menu Setup.***

Chapter

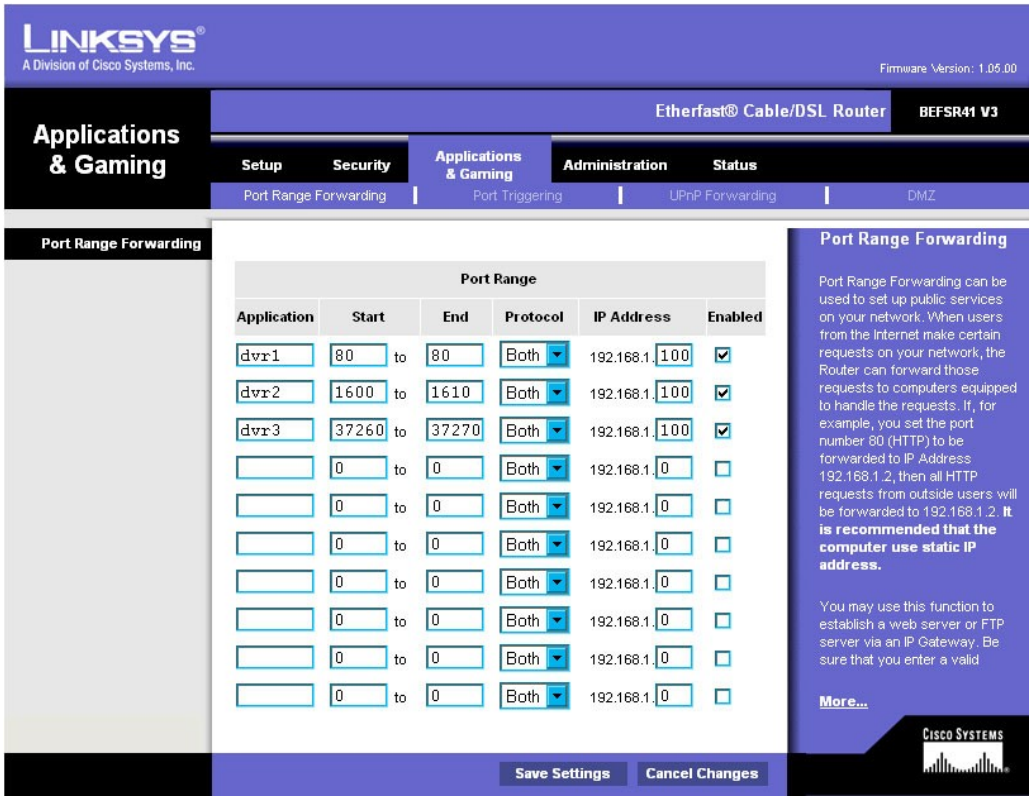
11

Linksys Port Forwarding

This chapter will cover a few simple configurations for the Linksys router. Please understand we do not support this product and will not give tech support on it. If you need Technical support on this router you must call Linksys. This Chapter is to offer some help to the installer and end user nothing more.

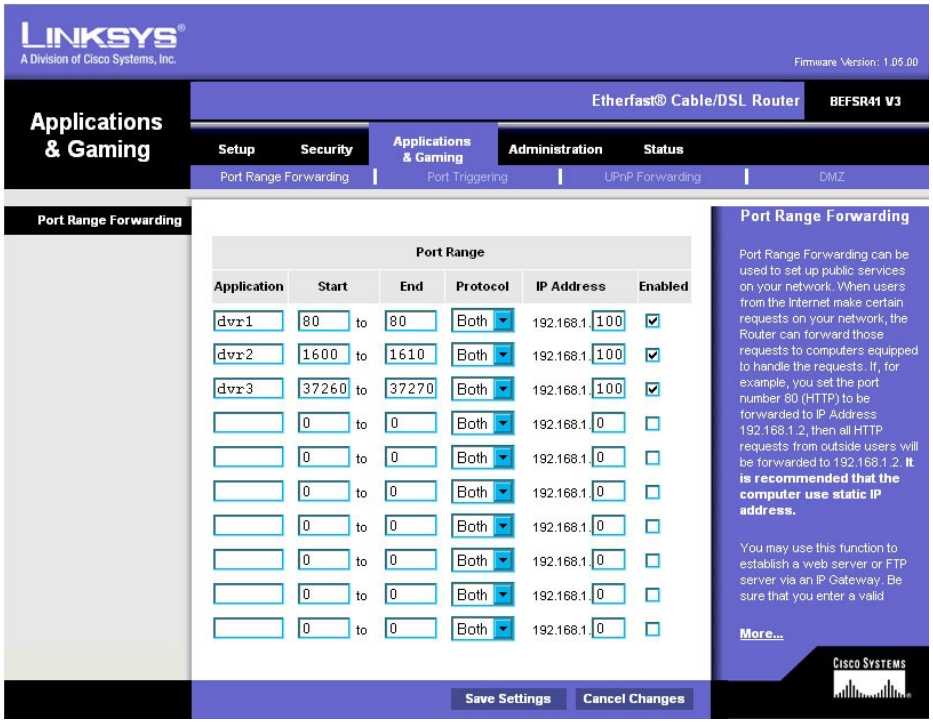
To access the Web-based Utility, launch Internet Explorer or Netscape Navigator, and enter the Router's default IP address, **192.168.1.1**, in the *Address* field. Then, press **Enter**. A password request page will appear. (Non-Windows XP users will see a similar screen.) Leave the *User Name* field blank. The first time you open the Web-based Utility, use the default password **admin**. (You can set a new password from the Administration tab's *Management* screen.) Click the **OK** button to continue.

The first screen that appears displays the Setup tab. This allows you to change the Router's general settings. Change these settings as described here and click the **Save Settings** button to apply your changes or **Cancel Changes** to cancel your changes.


LINKSYS
A Division of Cisco Systems, Inc.
Firmware Version: 1.05.00
Applications & Gaming
Etherfast® Cable/DSL Router
BEFSR41 V3
Setup
Security
Applications & Gaming
Administration
Status
Port Range Forwarding
Port Triggering
UPnP Forwarding
DMZ
Port Range Forwarding
Port Range
Application
Start
End
Protocol
IP Address
Enabled
dvr1 80 to 80 Both 192.168.1.100
dvr2 1600 to 1610 Both 192.168.1.100
dvr3 37260 to 37270 Both 192.168.1.100
0 to 0 Both 192.168.1.0
Port Range Forwarding
Port Range Forwarding can be used to set up public services on your network. When users from the Internet make certain requests on your network, the Router can forward those requests to computers equipped to handle the requests. If, for example, you set the port number 80 (HTTP) to be forwarded to IP Address 192.168.1.2, then all HTTP requests from outside users will be forwarded to 192.168.1.2. It is recommended that the computer use static IP address.
You may use this function to establish a web server or FTP server via an IP Gateway. Be sure that you enter a valid
More...
Cisco Systems
Save Settings
Cancel Changes

The Applications and Gaming Tab allows you to set up public services on your network, such as web servers, ftp servers, e-mail servers, or other specialized Internet applications. (Specialized Internet applications are any applications that use Internet access to perform functions such as videoconferencing or online gaming. Some Internet applications may not require any forwarding.)

To forward a port, enter the information on each line for the criteria required. Descriptions of each criterion are described here.


LINKSYS
A Division of Cisco Systems, Inc.
Firmware Version: 1.05.00
Applications & Gaming
Etherfast® Cable/DSL Router
BEFSR41 V3
Setup
Security
Applications & Gaming
Administration
Status
Port Range Forwarding
Port Triggering
UPnP Forwarding
DMZ
Port Range Forwarding
Port Range
Application
Start
End
Protocol
IP Address
Enabled
dvr1 80 to 80 Both 192.168.1.100
dvr2 1600 to 1610 Both 192.168.1.100
dvr3 37260 to 37270 Both 192.168.1.100
Port Range Forwarding
Port Range Forwarding can be used to set up public services on your network. When users from the Internet make certain requests on your network, the Router can forward those requests to computers equipped to handle the requests. If, for example, you set the port number 80 (HTTP) to be forwarded to IP Address 192.168.1.2, then all HTTP requests from outside users will be forwarded to 192.168.1.2. It is recommended that the computer use static IP address.
You may use this function to establish a web server or FTP server via an IP Gateway. Be sure that you enter a valid
More...
Cisco Systems
Save Settings
Cancel Changes

Application - In this field, enter the name you wish to give the application. Each name can be up to 12 characters.

Start/End - This is the port range. Enter the number that starts the port range under **Start** and the number that ends the range under **End**.

Protocol - Enter the protocol used for this application, either **TCP** or **UDP**, or **Both**.

IP Address - For each application, enter the IP Address of the PC running the specific application.

Enable - Click the **Enable** checkbox to enable port forwarding for the relevant application.

Change these settings as described here and click the **Save Settings** button to apply your changes or **Cancel Changes** to cancel your changes.

Example: (*Here we open ports for up to 10 clients)*

DVR	80 to 80	Both	192.168.1.50	Enable
DVR	1600 to 1610	Both	192.168.1.50	Enable

Chapter
12

DVR	37260 to 37270	Both	192.168.1.50	Enable

- ***Note: If your Internet service provider blocks port 80 and you are using a different port to access the DVR through the DVR's Network Menu Setup please open those specific ports in this section of the router.***

- ***Note: If you wish to have multiple users log into the DVR please open a range for the control and data ports on your router. For example if you would only like 4 clients to connect to the DVR open 1600-1603 and 37260 ~ 37263***

  The following is the address you would type:

  http:// IP address of your internet service provider: 8100

D-Link Port Forwarding

This chapter will cover a few simple configurations for the D-Link router. Please understand we do not support this product and will not give tech support on it. If you need Technical support on this router you must call D-Link. This Chapter is to offer some help to the installer and end user nothing more.

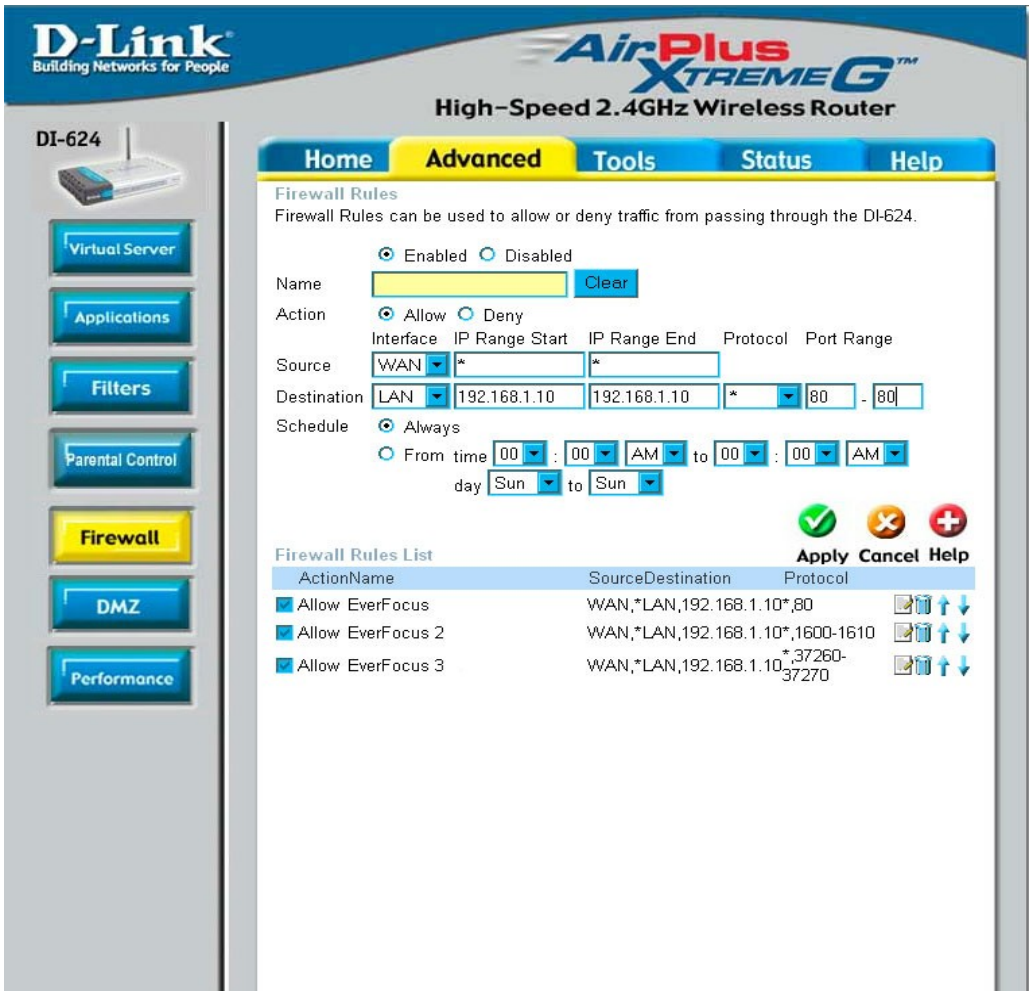
Whenever you want to configure your network or the DI-624, you can access the Configuration Menu by opening the web-browser and typing in the IP Address of the DI-624. The DI-624 default IP Address is shown at right:

- Open the web browser
- Type in the **IP Address** of the Router (http://192.168.0.1)

Note: if you have changed the default IP Address assigned to the DI-624, make sure to enter the correct IP Address.

- Type **admin** in the **User Name** field
- Leave the **Password** blank
- Click **OK**

➢ The next step is to open ports within your router. Go to Virtual Server in the router.



Example1:

Firewall - Select **Enabled** or **Disabled**

Name - Enter the name referencing the virtual service

Action – Either Allow or Disallow its use.

Source - The server computer in the WAN (Wide Area Network) that will be providing the virtual services. If you have a Web server that you wanted Internet users to access at all times, you would need to enable it. Simply place a *.

Private IP - The server computer in the LAN (Local Area Network) that will be providing the virtual services. If you have a Web server that you wanted Internet users to access at all times, you would need to enable it. Web (HTTP)

server is on LAN (Local Area Network) computer 192.168.1.10 HTTP uses port 80, TCP and UDP.

Protocol Type - The protocol used for the virtual service.

Public Ports - The port number on the WAN (Wide Area Network) side that will be used to access the virtual service.

Schedule - The schedule of time when the virtual service will be enabled.
The schedule may be set to **Always**, which will allow the particular service to always be enabled. If it is set to **Time**, select the time frame for the service to be enabled. If the system time is outside of the scheduled time, the service will be disabled.

- The next step is to open ports within your router. Open virtual ports in the router.
    - EDR Ports to open: 80, 1600, 1601, 1602, 1603, 37260, 37261, 37262, 37263
    - ***Note: If your Internet service provider blocks port 80 and you are using a different port to access the DVR through the DVR's Network Menu Setup please open those specific ports in this section of the router.***
    - ***Note: If you wish to have multiple users log into the DVR please open a range for the control and data ports on your router. For example if you would only like 4 clients to connect to the DVR open 1600-1603 and 37260 ~ 37263***
- If your Internet Service Provider Blocks port 80. Simply do the following:
    - Change the HTTP port from 80 to 8100 in the **NETWORK MENU.**
- To access the DVR from a computer simply open Internet Explorer and in the address bar type:

    The following is the address you would type:

    http:// (IP address of your internet service provider): 8100

Chapter 13

DDNS

This chapter will cover a few simple configurations for setting up DDNS. Please understand **EverFocus Electronics Corp. is not affiliated with DYNDNS.org** or any other site that provides a dynamic domain account. Technical support for this feature will be limited to setting up the account information exclusively on the EverFocus DVR. **EverFocus Electronics Corp will not provide technical support on setting up a DDNS account**. Once an account has been setup through DYNDNS.org or any other service, then EverFocus Technical Support can assist with entering the information on the DVR. This Chapter is to offer some help to the installer and end user in setting up the account.

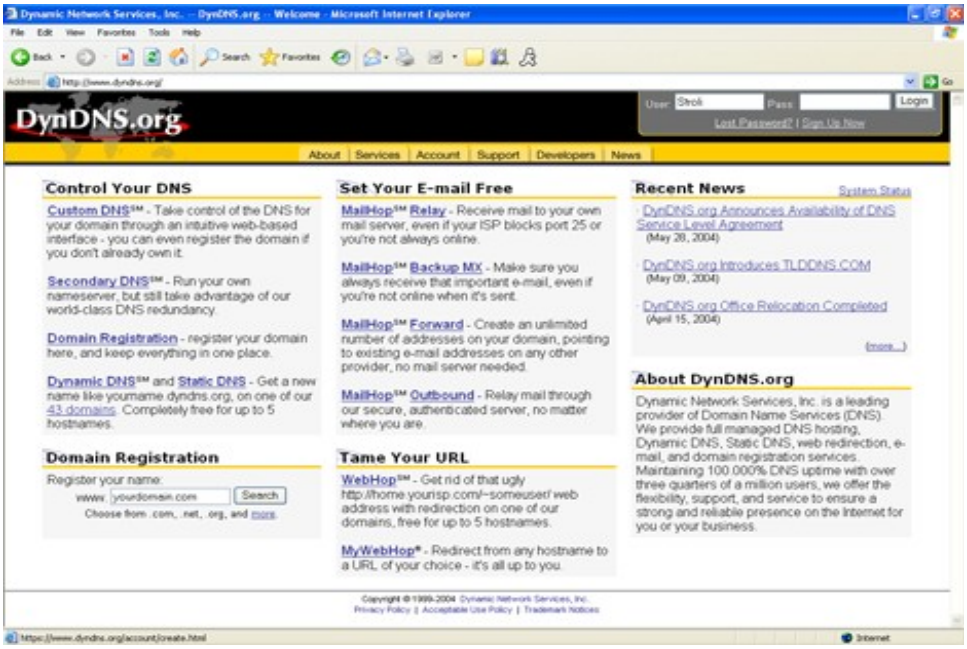
NOTE: If you are using the DDNS feature in the EverFocus DVR the DVR must be connected directly to the high speed modem using a WAN/Public IP address. It can not be connect to a LAN or behind a router.

13.1 Creating a DDNS Account

- The first step is to open Internet Explorer and in the address bar type:

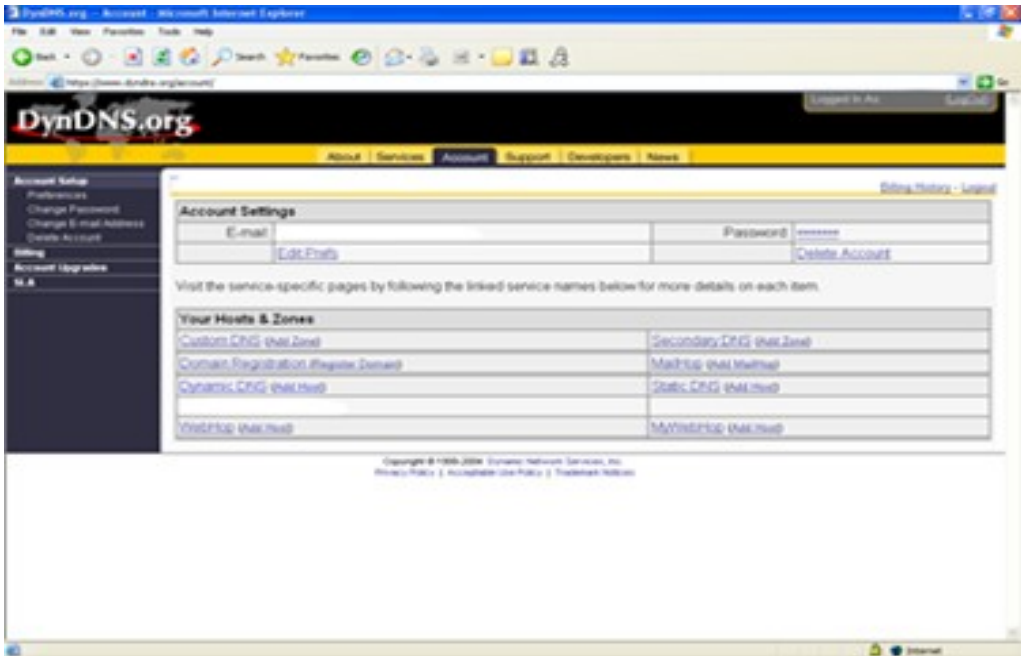
  http://www.dyndns.org

- The next step is to register with dyndns.org by clicking on sign up now.



➢ This is where you file out the information DynDNS requires. You will then receive an email to confirm your account once you confirm you will login into DynDNS.org.

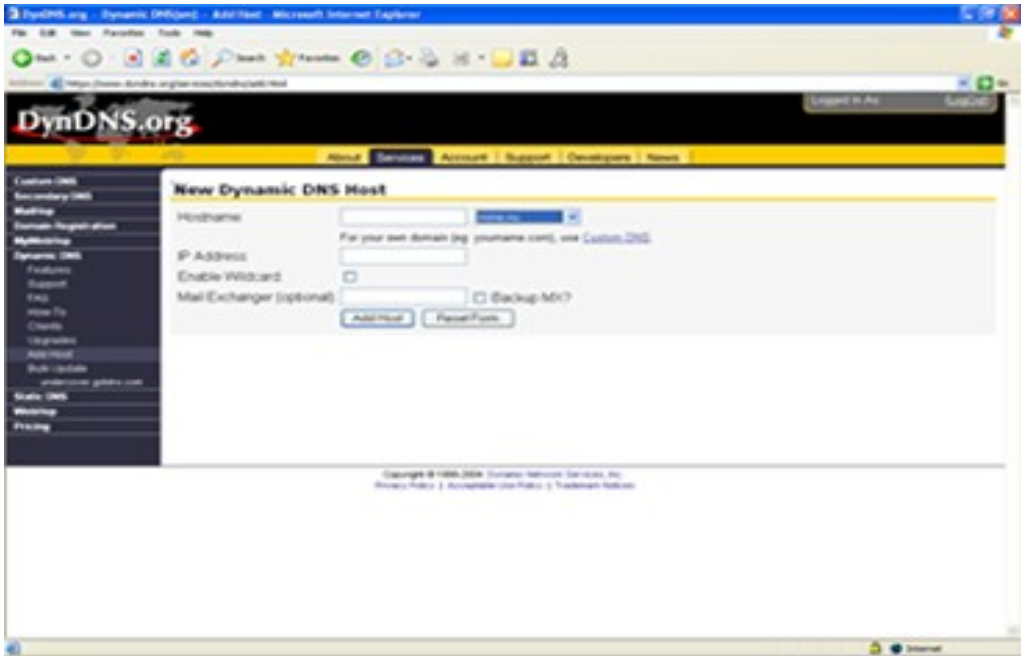
➢ After you have logged in click on click on the account tab and the click on Add Host link right next to Dynamic DNS.



- The next step is to add a host name with an extension.
  Example: Everfocus.homeip.net

- The IP address should already be entered for you. If not then, add the IP address manually. Then click add host and you are done registering DDNS.

- Note: IF you are using DDNS service through a router, you may refer to the previous two chapters to set up DDNS within your router.



- To access the DVR from a computer simply open Internet Explorer and in the address bar type:

  http:// The DDNS you created example everfocus.homeip.net

Setting up DDNS on the DVR

Once you have the information from DYNDNS.org you can setup the account to connect to the DVR.

- Press [MENU] on the front panel to access the Main Menu Setup

- Use the JOG wheel to highlight Network. Press [ENTER]
- Turn the JOG wheel to highlight DDNS. Press [ENTER]
- For SERVER select WWW.DYNDNS.ORG

- For USER, enter the domain name (example: : Everfocus.homeip.net)
- For PASSWD enter the password for the account.

- All the other settings can be ignored.

Exit out of the DVR and restart. Then test your domain through any internet connection.

PPPOE

DSL (Digital Subscriber Line) uses PPPOE (Point-to-Point Protocol over Ethernet) to connect to the internet. PPPOE requires authentication which calls for a username and password to be sent from the connection, through the modem and onto the connection server. Once a connection has been authenticated, then it has access to the internet.

PPPOE requires that a Username and a password be utilized to connect to the internet. The EDR series DVR is a PPPOE client, therefore it can connect to a PPPOE server, obtain an IP address automatically, and give access to users across the Internet without the need for an additional router.

Enabling PPPOE

Once you have the account information (provided by ISP) you can enter the username and password on the DVR

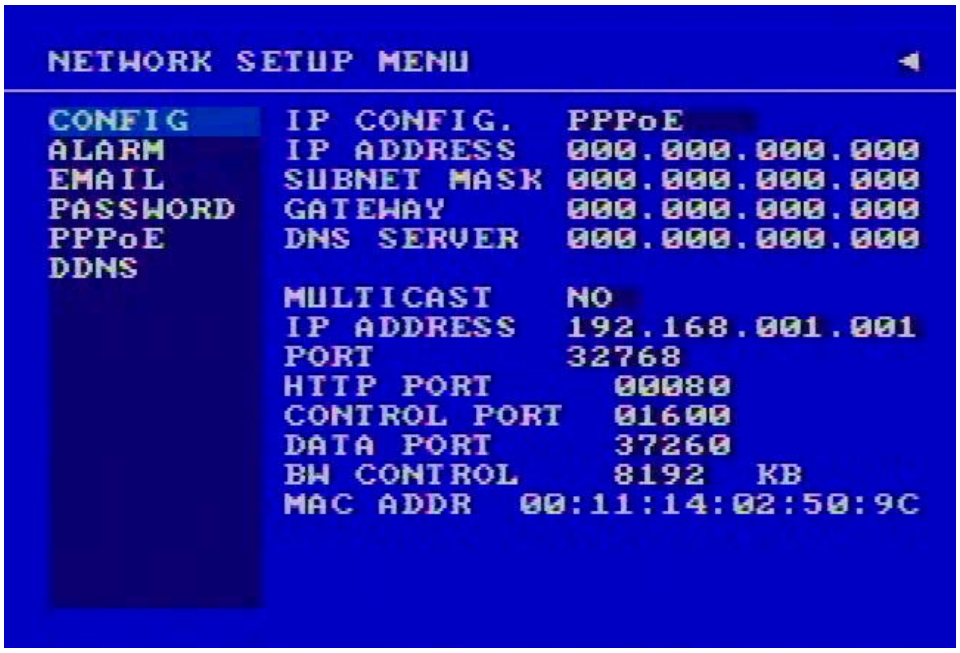
- Press [MENU] on the front panel to access the Main Menu Setup

- Use the JOG wheel to highlight Network. Press [ENTER]
- Turn the JOG wheel to highlight PPPOE. Press [ENTER]

- For USER, enter the account name (example: : Youraccount@ISPdomain.net)
- For PASSWD enter the password for the account.

Note: if your ISP provided you with DNS addresses, enter the information under PRIMARY DNS and SECONDARY DNS.

- Press [MENU] to return to the NETWORK SETUP MENU options
- Turn the JOG wheel to highlight CONFIG. Press [ENTER]



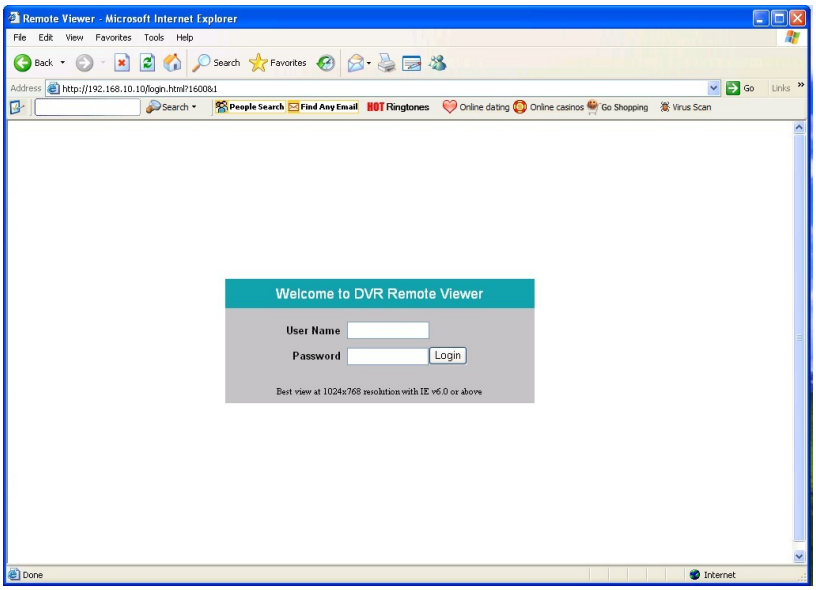
- Turn the JOG wheel to change the IP CONFIG option to PPPOE.
- Press [MENU] to exit the CONFIG options
- Press [MENU] to exit the NETWORK options
- Press [MENU] to exit the MAIN MENU

Exit out of the DVR and restart the unit.

Viewing through Internet Explorer

- To access the DVR from a computer simply open Internet Explorer and in the address bar type:

  http:// (LAN or IP address of your internet service provider)

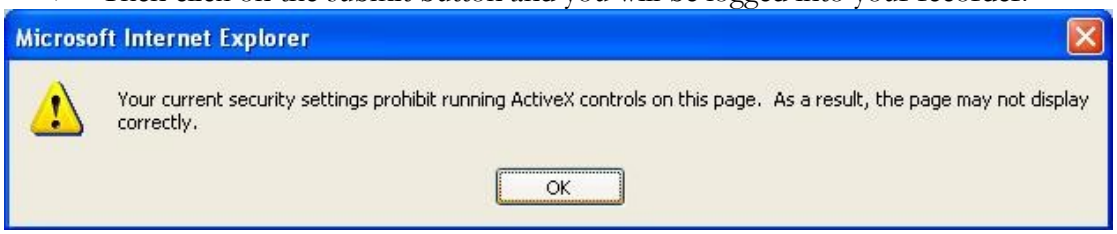

Remote Viewer - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://192.168.10.10/login.html?1600&1
Search People Search Find Any Email HOT Ringtones Online dating Online casinos Go Shopping Virus Scan
Welcome to DVR Remote Viewer
User Name
Password
Login
Best view at 1024x768 resolution with IE v6.0 or above
Done
Internet

- The digital video login page will appear on the screen similar to the one shown above.

- User must enter a user name and password to access the recorder. You can find your user name and password in the Network setting menu of your DVR.

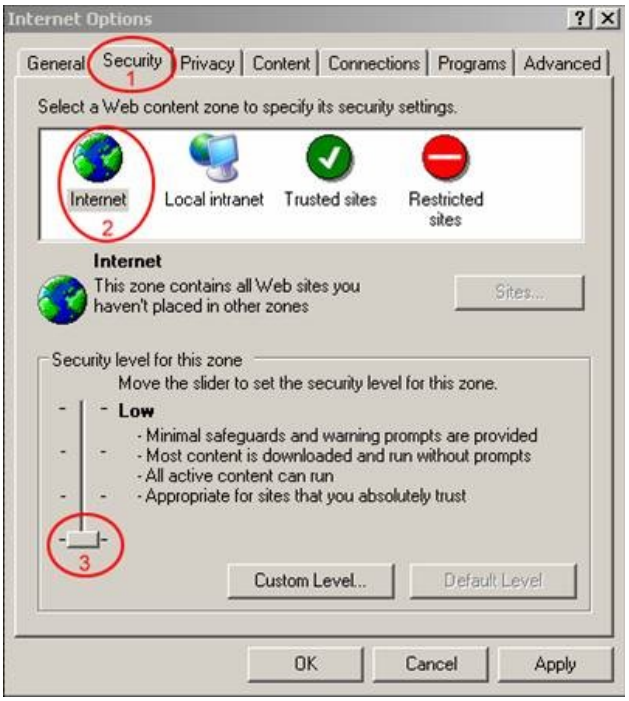
- The Default user name and password are admin and 11111111. (Remote user ID and Password can be found in the Network Menu)

- Then click on the submit button and you will be logged into your recorder.

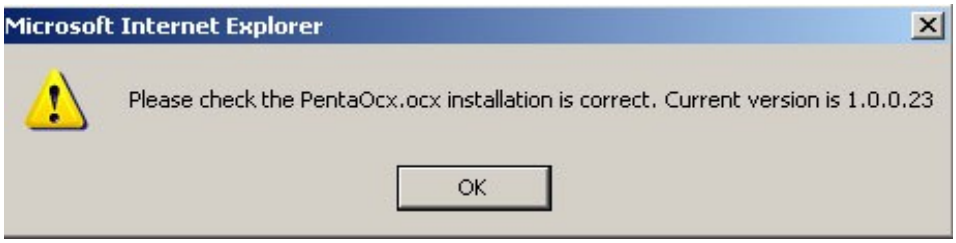

Microsoft Internet Explorer
Your current security settings prohibit running ActiveX controls on this page. As a result, the page may not display correctly.
OK

If the above error message pops up when you connect to EDR for viewing from internet, you should change Internet Option of IE to enable ActiveX controls.

Select **Tools** -> **Internet Options…**



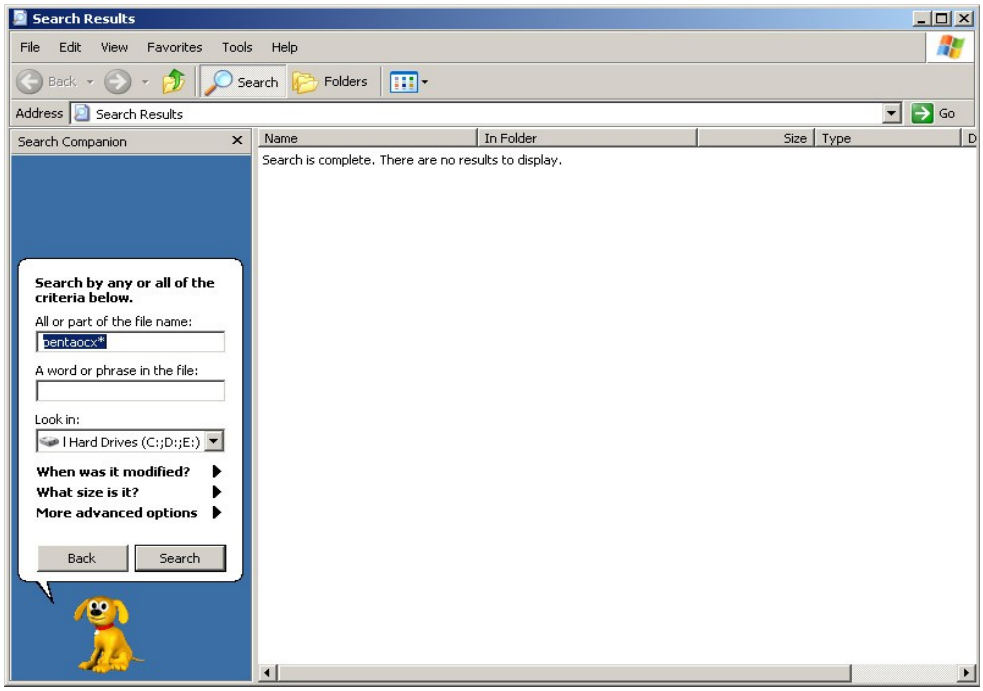
Please refer to the above steps for changing **Security Options** to **Low**.
Main Screen:



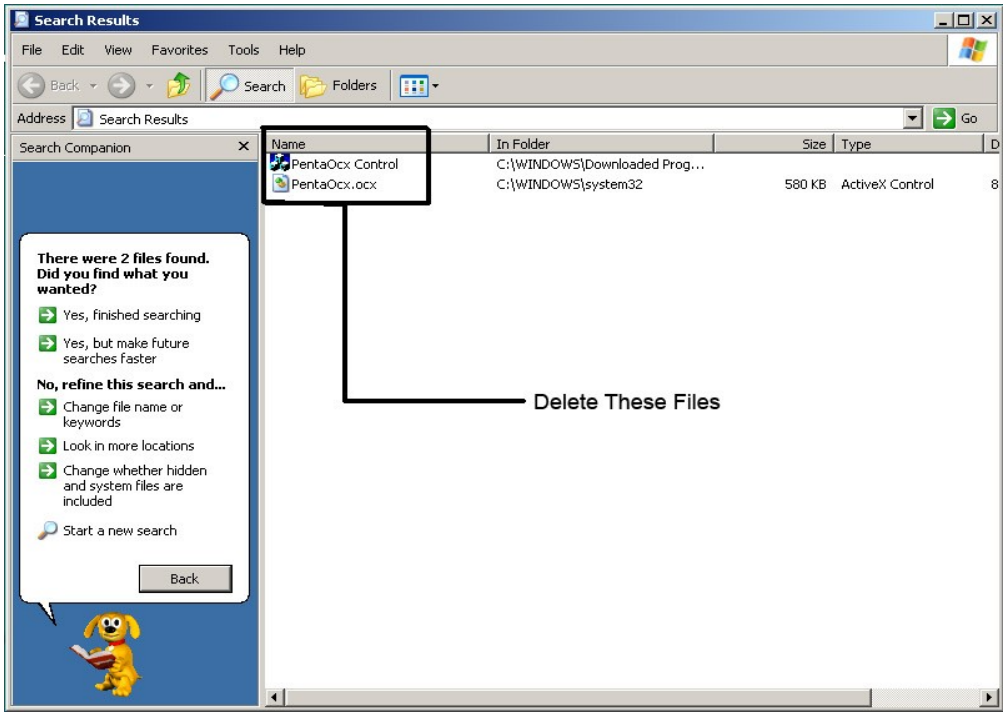
If the above error message pops up when you connect to EDR for viewing from internet, this usually happens if your pentaocx file is outdated or not installed.

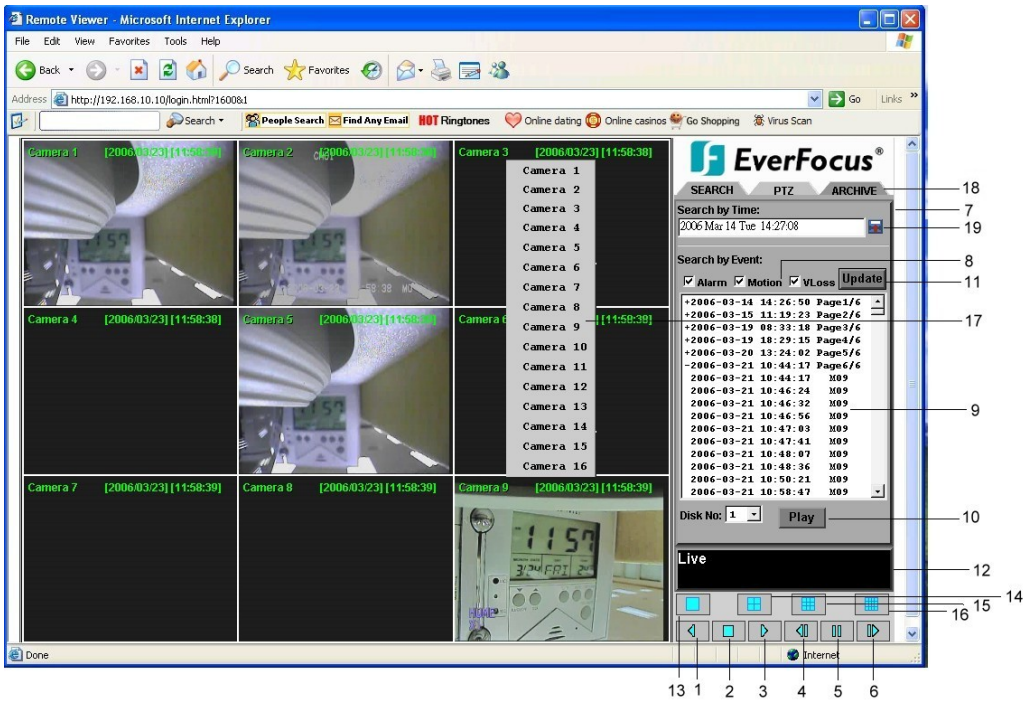
To Remedy this problem simply go to Start and Search.

Search Your Computer for the following file pentaocx.



Once you have found the files, delete them.


Search Results
File Edit View Favorites Tools Help
Back Search Folders
Address Search Results
Go
Search Companion
Name In Folder Size Type
PentaOcx Control C:\WINDOWS\Downloaded Prog...
PentaOcx.ocx C:\WINDOWS\system32 580 KB ActiveX Control
There were 2 files found. Did you find what you wanted?
Yes, finished searching
Yes, but make future searches faster
No, refine this search and...
Change file name or keywords
Look in more locations
Change whether hidden and system files are included
Start a new search
Back
Delete These Files



The above diagram is the main screen display.
The icons on the lower corner of the screen are mainly for control and configuration; those on the right corner are for status indication.
If any icon is grayed, it means that the specific function is not accessible in the current mode.
The followings are a brief description for each of the icons.

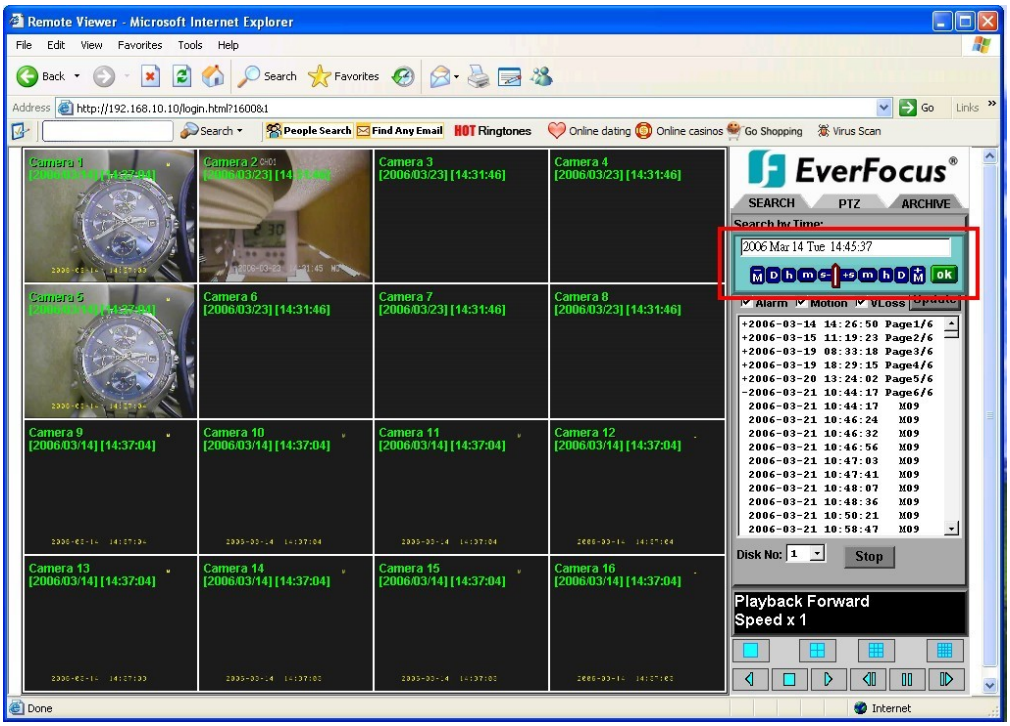
1. **REV. PLAY:** Reverse Video Playback.
2. **STOP:** Press this key to stop Video Playback.
3. **PLAY:** Play back the Video display.
4. **STEP FORWARD:** the Video Playback display.
5. **PAUSE:** To pause the Video Playback display.
6. **STEP BACKWARD:** the Video Playback display.

7. The system allows up to 2 ways to playback video, by **EVENT LIST** & **Time**.
8. Events to be searched: **Alarm**, **Motion** and **Vloss**.
9. All available events are shown in the list. Select the desired event and it will be highlighted.

10. Click on "**Play**" to playback selected video event.
11. Press "**Update**" to refresh the event list.

12. Current connection and playback status are shown along with date and time.
13. Full screen view.
14. Quad screen view.
15. Nine split screen view.
16. Sixteen split screen view.
17. A pop-up menu to select camera to view will be shown by right-clicking the mouse.
18. There are 3 main functions of Remote Viewer: **SEARCH**, **PTZ** and **ARCHIVE**. **SEARCH** section allows you to search by event or by time. **PTZ** section allows you to do PTZ control. **ARCHIVE** section allows you to archive files or download DVRViewer.
19. Pick a date allows you to search by time in a more convenient way.

14.1 Search by Time

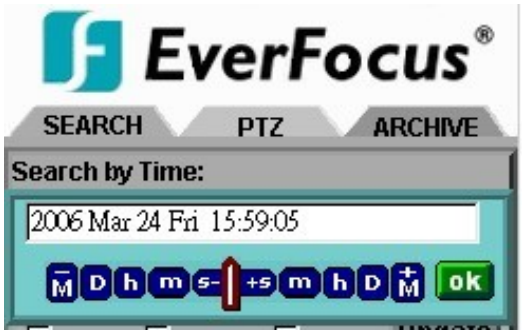


There are 3 ways to do search by time. Press **Pick a date** first.

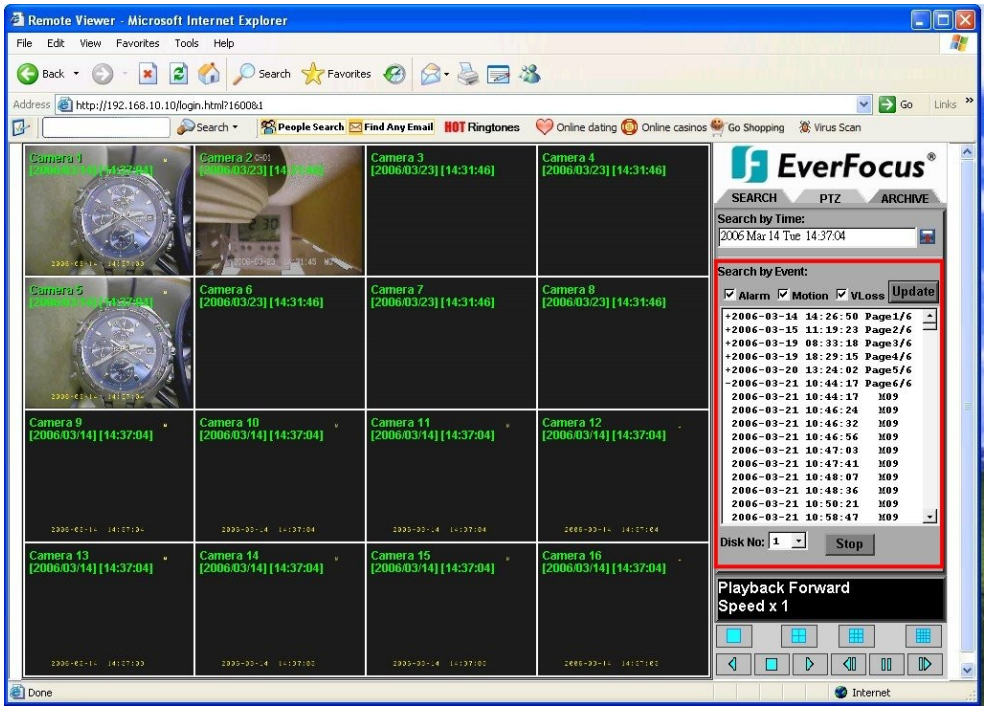
1. Press the button of **M** for changir to be searched, **D** for day, **h** for hour, **m** for minute and **s** for secona. The "-" sign at the left-hand side is to decrease the value, whereas the "+" sign at the right-hand side is to increase the value.
2. Move the slide bar between the buttons to change Month, Day, Hour, Minute, and second to be searched. Move the slide bar to the left-hand side for increasing the value, or right-hand side for decreasing the value.

3. Enter Month, Day, Hour, Minute, and second directly in display bar.

Press **OK** to start searching.

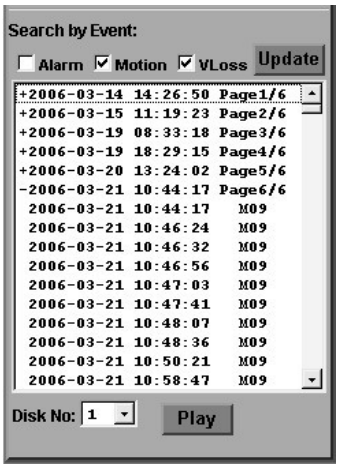


14.2 Search by Event

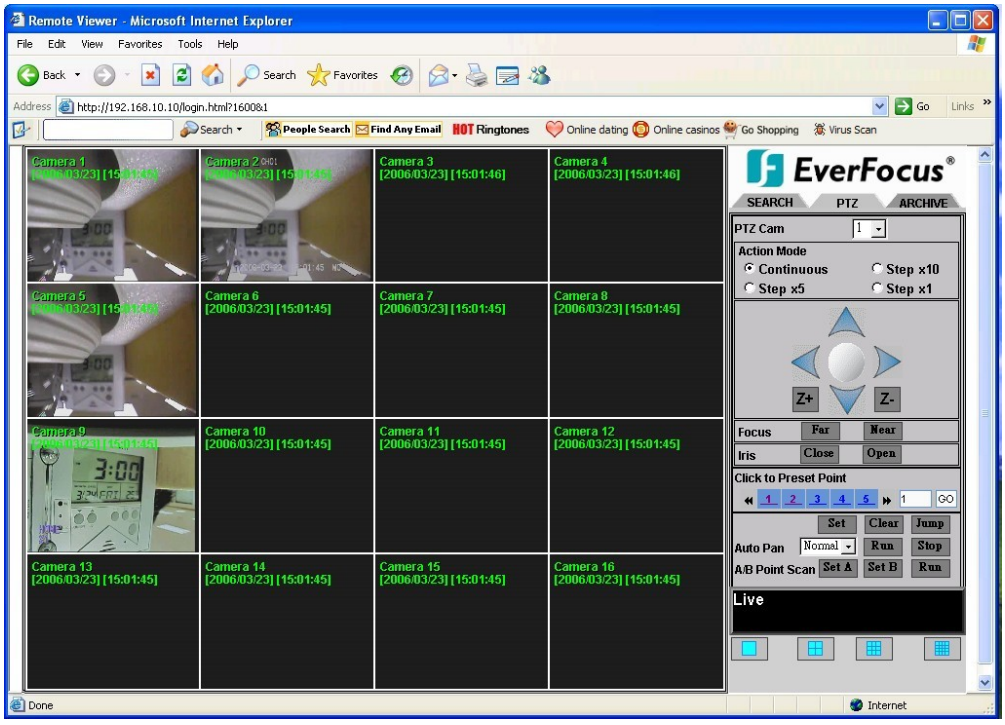


I. Select Event Type from **Alarm**, **Motion** and **Vloss**.
Note: Please keep at least one event type checked.
II. Press **Update** button to refresh the event list.
III. All events of the selected type will be displaying along with Date/Time, event type (represents by a capital letter), camera number (represents by a number), e.g. M02 is the motion event from camera 2.

IV. When there is a "+" sign in front of the date with page number at the end, it means that you can go to that page for showing the events of that page.
V. Select the **Disk No.** from which you would like to search events.
VI. Press **Play** button to playback the selected event.



14.3 PTZ Control



I. Select the PTZ camera from drop-down menu.
II. Select **Action Mode**. 4 options are available: **Continuous**, **Step x10**, **Step x5** and **Step x1**.
III. Use Direction Arrows (up, down, left, right) to move/adjust the focus to your desired direction and angle.

IV. Press **Z+** for Zooming In or **Z-** for Zooming Out.

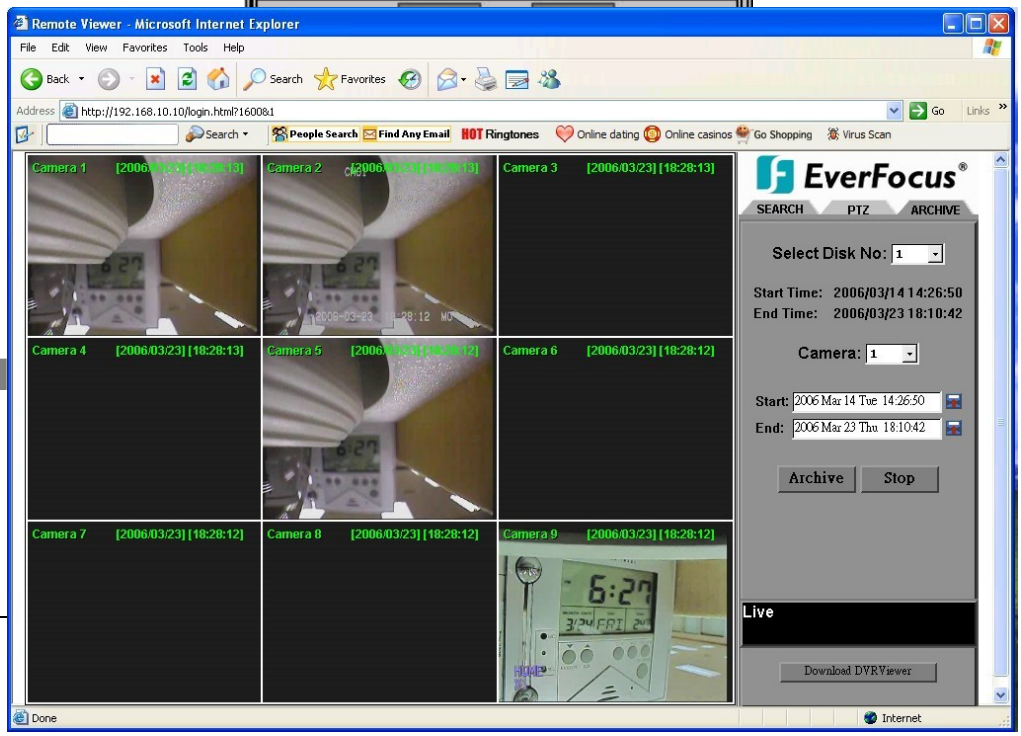
V. In **Focus** option, press **Near** to move the focus closer to the subject. Or you can move the focus farther from the subject by pressing **Far**.

VI. You can turn on the **Iris** by pressing **Open** or turn it off by pressing **Close**.

VII. "**Click to Preset Point**" helps you to define the preset point at which you would like to see the subject. Press **Set** for confirmation, **Clear** to exit or **Jump** to jump to a specific point.

VIII. "**Auto Pan**" is to define the speed of PTZ camera when moving horizontally, please select from **Slower**, **Slow**, **Normal**, **Fast** to **Faster**. Press **Run** for confirmation or **Stop** to exit.

IX. A/B Point Scan allows you to do tour between 2 points. Move to the first point by using direction arrows and press **SET A**. Then move to the second point by using direction arrows and press **SET B**. Press **RUN** to start A/B Point Scan.



To Archive files:

I. **Select Disk No**.
II. **Start Time/End Time** indicates the start and end time of the disk selected
III. **Camera:** Select the camera that you wish to archive files.
IV. **Start:** Select the start time to be archived.
V. **END:** Select the end time to be archived.

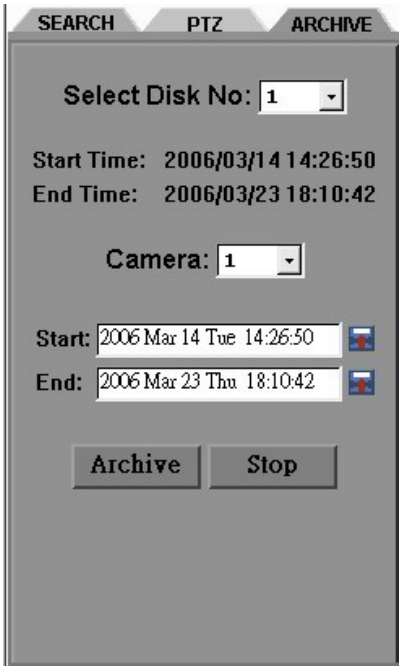
There are 3 ways to search either **Start** or **End** time to be archived. Press first.

1. Press on the button of **M** for changing Month to be searched, **D** for day, **h** for hour, **m** for minute and **s** for second. The "-" sign at the left-hand side is to decrease the value, whereas the "+" sign at the right-hand side is to increase the value. Press OK

2. Move the slide bar between the buttons to change Month, Day, Hour, Minute, and second to be searched. Move the slide bar to the left-hand side for increasing the value, or right-hand side for decreasing the value.
3. Enter Month, Day, Hour, Minute, and second directly in display bar.
4. Press **OK** to start searching.

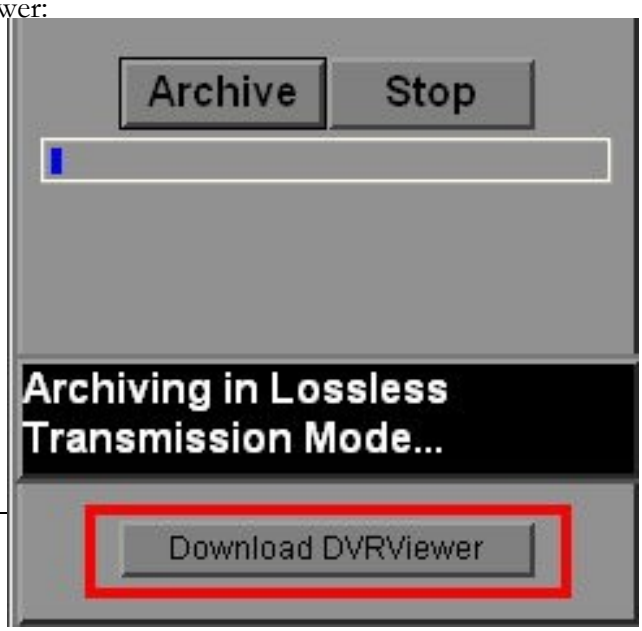
VI. Press **ARCHIVE** button to start archiving. A "**.arv"** file will be saved.

VII. Press **STOP** button if you wish to cancel archiving.



In order to read the archived EDR MPEG Files (.arv), you would need to download viewer:

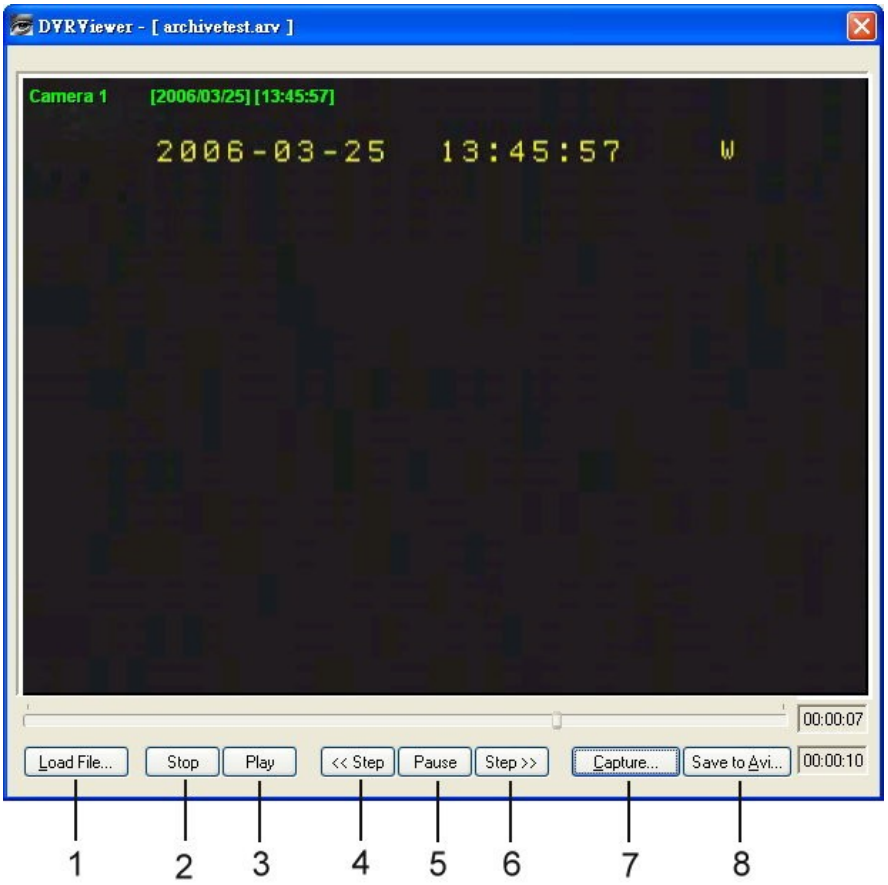
I.



II. Select "**Run**" or "**Save**" the file.

File Download - Security Warning
Do you want to run or save this file?
Name: DVRViewer.exe
Type: Application, 455 KB
From: 192.168.10.10
Run
Save
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

III. Open the DVRViewer.exe for loading the archived EDR MPEG Files (.arv)



Detailed explanation of DVRViewer is as follows:

1. **Load File**: to load the archived EDR MPEG Files (.arv).
2. **Stop**: to stop playing ".arv" file.
3. **Play**: to play ".arv" file.
4. **<<Step**: step backward of the playing file.
5. **Step>>**: step forward of the playing file.
6. **Capture**: to capture the playing image as ".jpg" file.
7. **Save to Avi**: to save the archived EDR MPEG File as ".AVI" file.

Note: If you are unable to play "AVI" file downloaded from "EDRViewer", please go to the following URL: http://www.divx.com/divx/play/download/index.php for downloading DivXPlay.exe. This will enable you to play "AVI" file successfully.

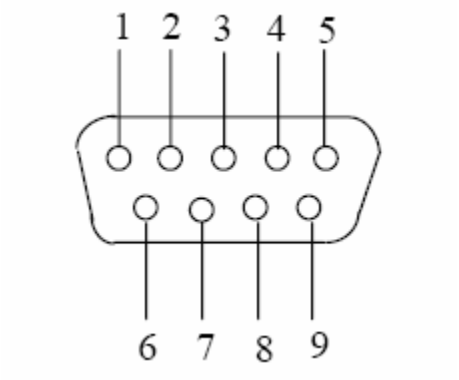
Chapter

Interface Specifications 15

RS232

This Digital Video Recorder may be controlled by a computer or a terminal via the standard D-SUB 9-pin RS-232 connector.

- D-SUB 9-pin connector specifications:



- The pin assignment of the 9-pin D-SUB connector

Digital Video Recorder			HOST	
PIN #	NAME		PIN #	NAME
1	NOT CONNECTED		1	NOT CONNECTED
2	TXD	→	2	RXD
3	RXD	←	3	TXD
4	NOT CONNECTED		4	NOT CONNECTED
5	GROUND	—	5	GROUND
6	NOT CONNECTED		6	NOT CONNECTED
7	NOT CONNECTED		7	NOT CONNECTED
8	NOT CONNECTED		8	NOT CONNECTED
9	NOT CONNECTED		9	NOT CONNECTED

15.1 Transmission Setting

There are 6 different speeds that can be used to transmit instruction or information through the RS232/RS485 port on the device, 1200 baud, 2400

baud, 4800 baud, 9600 baud, 19200 baud, and 3840 baud. The default setting from the factory is 9600 baud. Please refer to RS232/RS485 Setting Menu on page 32 for details.

15.2 Remote Control Protocol

A computer can be used to control the DVR by sending the packet as follows.

```
==========================================================

EDR1640/1620/920 485/232 Control Code Protocol

==========================================================

1-1. Sample control code packets

     Example1: A packet that send "REC" key to EDR(ID=5)

                0x85    (length)

                0x00    (Receiver ID high byte)

                0x05    (Receiver ID low byte)

                0x4B    (OPcode = key)

                0x08    (DATA1 = "Rec" keycode)

                0x5D    (checksum)

      Example2: A packet that send "PAUSE" key to EDR(ID=4999)

                0x85    (length)

                0x27    (Receiver ID high byte)

                0x07    (Receiver ID low byte)

                0x4B    (OPcode = key )

                0x0C    (DATA1 = "Pause" keycode )

                0x0A    (checksum)


      Example3: A packet that send "PLAY" key to all
                 EDR(broadcast)
```

```
0x85    (length)
0x7f    (Receiver ID high byte)
0x7f    (Receiver ID low byte)
0x4B    (OPcode = key )
0x0B    (DATA1 = "Play" keycode )
0x59    (checksum)
```

2-1. The format of message packet is as follows:

Length Byte (Prefix: 0x86, 0x87, or 0x88 .....)

Receiver ID high byte

Receiver ID low byte

Opcode Byte

Data Byte1

Data Byte2

Data Byte3

.

.

Checksum Byte

2-2. Length Byte

This Length Byte is also a prefix. Bit7 must be 1.

EX: 0x87 ==> this packet has 7 bytes length. (not included Length byte itself)

2-3. Receiver ID

1). Individual receiver ID

Decimal	14bit binary value	Hbyte	Lbyte	Receiver ID
0	0000000 0000000	00	00	ID = 0
1	0000000 0000001	00	01	ID = 1
2	0000000 0000010	00	02	ID = 2
....				
126	0000000 1111110	00	7e	ID = 126
127	0000000 1111111	00	7f	ID = 127
128	0000001 0000000	01	00	ID = 128
129	0000001 0000001	01	01	ID = 129
255	0000001 1111111	01	7f	ID = 255
256	0000010 0000000	02	00	ID = 256
....				
511	0000011 1111111	03	7f	ID = 511
....				
16382	1111111 1111110	7f	7e	ID = 16382

2). Broadcast ID

Decimal	14bit binary value	Hbyte	Lbyte	Receiver ID
16383	1111111 1111111	7f	7f	All EDR connect to RS485/RS232

2-4. Opcode Byte & Data bytes

2-4-1. OPcode

OPcode	Data1	Function
0x4B	Keycode	A remote key pressed

2-4-1. A remote key pressed (OPcode=0x4B)

Data1	Key for EDR810/EDR410		
0x00	CH1	0x0E	COPY
0x01	CH2	0x0F	DISPLAY
0x02	CH3	0x10	SHUTTLE<<0
0x03	CH4	0x11	SHUTTLE<<1
0x04	MODE	0x12	SHUTTLE<<2
0x05	ZOOM	0x13	SHUTTLE<<3
0x06	SEQ	0x14	SHUTTLE<<4
0x07	MENU	0x15	SHUTTLE<<5
0x08	REC	0x16	SHUTTLE<<6
0x09	REV.PLAY	0x17	SHUTTLE>>0
0x0A	STOP	0x18	SHUTTLE>>1
0x0B	PLAY	0x19	SHUTTLE>>2
0x0C	PAUSE	0x1a	SHUTTLE>>3
0x0D	SEARCH	0x1b	SHUTTLE>>4
0x1c	SHUTTLE>>5	0x29	CH 14
0x1d	SHUTTLE>>6	0x2a	CH 15

Appendix

A

0x1e	JOG<	0x2b	CH 16
0x1f	JOG>	0x2c	SELECT
0x20	CH5	0x2d	CALL
0x21	CH6	0x2e	ENTER
0x22	CH7	0x2f	(reserve)
0x23	CH8	0x30	(reserve)
0x24	CH9	0x31	(reserve)
0x25	CH 10	0x32	(reserve)
0x26	CH 11	0x33	(reserve)
0x27	CH 12	0x34	(reserve)
0x28	CH 13		

2-5. Checksum Byte

Checksum is computed as the sum of all previous bytes (including the length byte), then mask with 0x7f.

Remote Control

The remote controller (RC200, Diagram A1) is an accessory to enhance the handy operations of the DVR. You can perform all the settings and operations by

the remote controller. The effective distances are up to10 meters without any obstacle. The keypad functions are same as the front panel key button of the DVR.

There are some replacement keys for JOG and SHUTTLE, definitions are:

JOG ▶ : Same as turning the JOG clockwise.

JOG ◀ : Same as turning the JOG counter-clockwise.

SHUTTLE ▶▶

1: fast forward 2X or slow forward 1/2X.

2: fast forward 4X or slow forward 1/4X.

3: fast forward 8X or slow forward 1/8X.

4: fast forward 16X or slow forward 1/10X.

5: fast forward 32X or slow forward 1/16X.

6: fast forward 600X or slow forward 1/32X.

SHUTTLE ◀◀

1: fast rewind 2X or slow rewind 1/2X.

2: fast rewind 4X or slow rewind 1/4X.

3: fast rewind 8X or slow rewind 1/8X.

4: fast rewind 16X or slow rewind 1/10X.

5: fast rewind 32X or slow rewind 1/16X.

6: fast rewind 600X or slow rewind 1/32X.

Note: The channel keys #10~16 are not available.

Reserved only for 16 CH DVR.

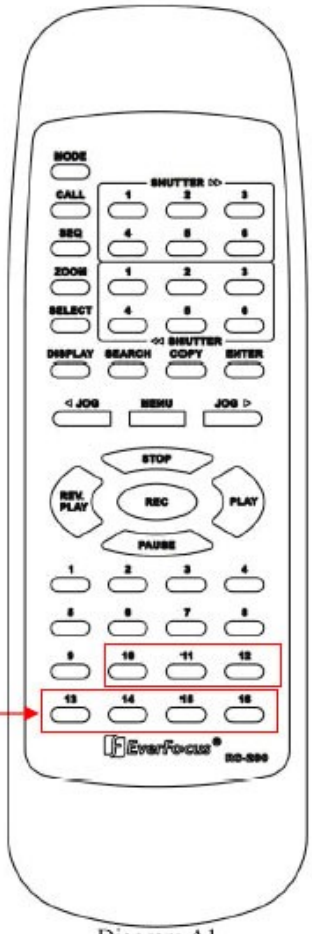


Diagram A1

Mouse Installation

To use a PS2 mouse with the DVR simply turn off the DVR first. Then plug in a **PS2 Optical mouse with Scroll Wheel** to the PS2 Mouse port on the back of the DVR.

When you power the DVR back up the mouse will have been loaded and you will see a mouse curser on your screen.

B-1 Using the Mouse

To bring up the mouse playback menu scroll the mouse to the middle of your screen and the playback menu will appear. You will then be able to click one of several buttons to play back, stop, forward, and rewind. To see the options menu using the mouse simply right click anywhere on your screen and you will see a menu similar to Diagram B1.

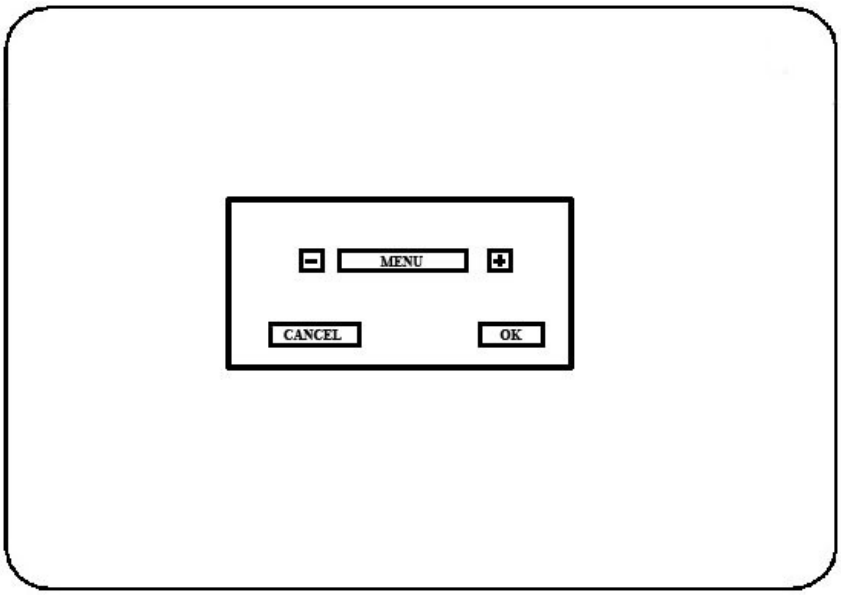


Diagram B1

You can click on the + or - boxes to go through the options or use your scroll wheel on the mouse. This menu gives you the following options:

- Mode, All Single Channel Views, Copy, Search, Stop, Menu, Display, Call, Select, Sequence, Zoom.

When you select any one of these options and press ok, it will be the same as pressing one of the options on the front panel of your DVR. Once you have logged into the menu option or any other option a new menu will appear. For example Diagram B2 shows an example of a new menu once you have clicked ok for the menu.

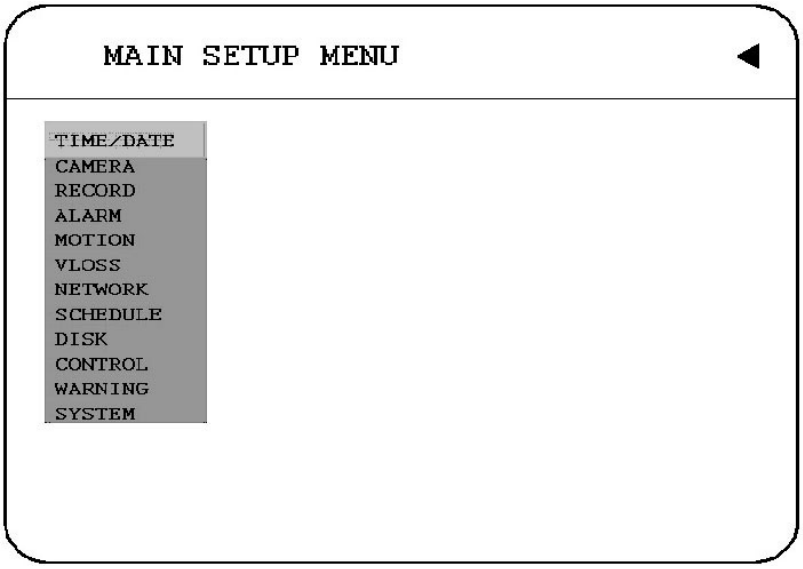


Diagram B2

From this menu you can left click on any one of the menu to select that menu.

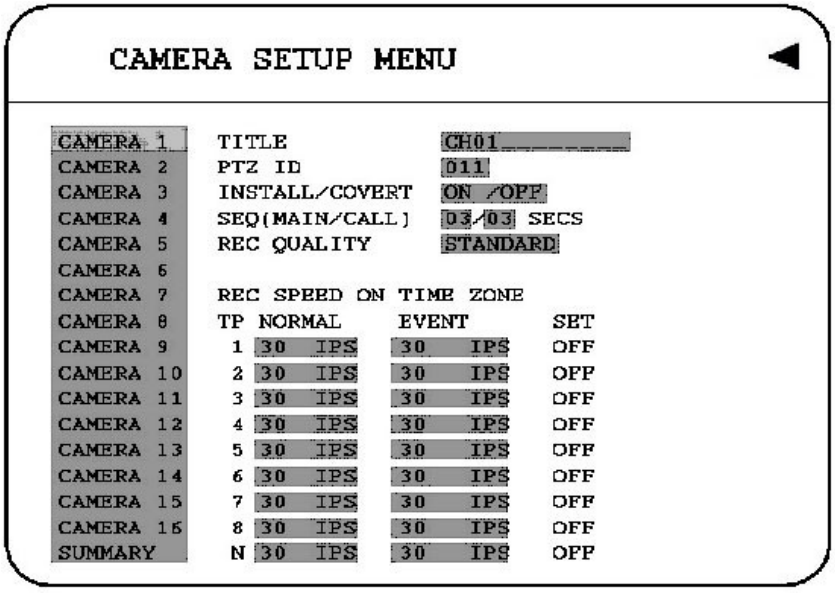


Diagram B3

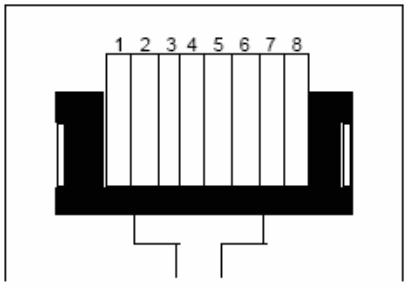
To go back to your main screen from here simply click on the Back arrow located on the top right hand of this screen.

Appendix

C

RJ45 (RS485) Pin Assignment

There are two RJ-45 (RS-485) connectors on the back panel of the DVR. Please refer the following pin assignment for application.



PIN #	NAME
1	GND
2	NC
3	RX
4	NC
5	NC
6	TX
7	NC
8	NC

Troubleshooting

If you have difficulty operating your system, run through the following checklist to see if you can solve the problem.

- **The DVR will not go into record mode?**

  - Make sure the HDD is locked in with the keys. Also check to make sure the hard drives are set to Master. A diagram located on the Hard Drive Label will show you how to set the drive to master.

- **The DVR displays no picture?**

  - First question you should ask yourself is the equipment wired properly. Please see your installation manual for help.
  - The second question to ask yourself, do all the wires used work properly.
  - The next step is to verify the recorder is getting the correct amount of power.

- **There is no display coming from one of the channels on the DVR?**

  - The first step is to verify is the problem coming from the recorder or the camera.
  - Simply take a working camera and plug it into the port that seems to not be working. If you see a picture this means the problem is coming from the camera.

- **I cannot connect to the recorder via the internet?**

  1. The first thing to check is does your internet provider block any ports.
  2. Are you using the IP address from the Internet Service provider?
  3. If you are using a router are the ports in your router opened?

CE Declaration

This equipment has been tested and found to comply with the limits for a **CE Class B** digital device,

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

In a domestic environment this product may cause radio interference. In which case the user may be required to take adequate measures.

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